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POLICY PAPER

# Boosting Energy Investment in Emerging Markets

## USA / North Africa as a Case Study

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ANALYSIS

# Imprint

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# 1. Introduction

Energy and climate are reshaping international investment flows. In this context, North Africa stands out as one of the most dynamic and strategically positioned regions for both fossil and renewable energy development.

Algeria, Egypt, Libya, Mauritania, Morocco, and Tunisia form a diverse energy landscape characterized by substantial renewable energy potential and significant oil and gas resources. The region also benefits from a strategic geographical location at a crossroads between Sub-Saharan Africa, Europe, and the Gulf and surrounded by the Atlantic Ocean, the Mediterranean Sea, and the Red Sea.

In 2024, North Africa had a combined population of approximately 225 million, a GDP of 918 billion USD, and an electricity generation capacity of 128 GW.

Table 1: North African Countries Key Information in 2024

| Country | Population [million] | GDP [billion USD] | Electricity Production Capacity [GW] |
|---|---|---|---|
| Algeria | 46.8 | 263.6 | 22.6 |
| Egypt | 116.5 | 389 | 59 |
| Mauritania | 5.2 | 11.1 | 0.81 |
| Morocco | 38 | 154.4 | 29 |
| Tunisia | 12.4 | 53.4 | 5.9 |
| Libya | 6.9 | 46.6 | 10.5 |

According to the United Nations 2025 World Investment Report, North Africa emerged as the main growth engine in the continent. This is illustrated by the 277% increase in Foreign Direct Investments (FDI) in 2024 that totaled 51 billion USD. This remarkable increase is mainly explained by adapted financial mechanisms, a growing commitment to promote greenfield projects, and decision-makers' serious engagement. Multilateral Development Banks (MDBs), International Financial Institutions (IFIs), and regional and international cooperation played a major role in making these projects achievable on the ground. Energy and offshore cable projects were among the leading investment drivers.

For instance, Egypt attracted the largest part of FDI, with 45.6 billion USD, followed by Morocco with 1.6 billion USD (55% increase), Algeria with 1.2 billion USD (18% increase), and Tunisia with 936 million USD (21% increase).

While China or Europe might be thought of as the leading investors, interestingly, the United Arab Emirates is actually the largest provider of FDI in North Africa,

accounting for 40% of total inflows. The UAE is followed by Europe, mainly France, the United Kingdom, Germany, and Poland, then Asia, led by South Korea and China, and finally the United States and Canada.

In contrast to North Africa, the neighboring (yet further from the US) Gulf countries benefited from major agreements and long-standing strategic partnerships in sectors such as artificial intelligence, energy, infrastructure, and defense on the scale of trillions of dollars.

This paper, therefore, has two main objectives:

- The first is to present the general energy landscape in North Africa to an American audience.
- The second is to identify bottlenecks and suggest measures to encourage greater U.S. investment in the region.

Strengthening and diversifying foreign investment would empower North African economies, enhance investor confidence, and extend the economic dynamism of the Gulf countries and the United States to North Africa.

A developed and stable North Africa with affordable and reliable energy would mainly benefit local populations by fostering a thriving middle class and industrial growth. It will also contribute to regional peace and stability, which are much needed in these turbulent times.

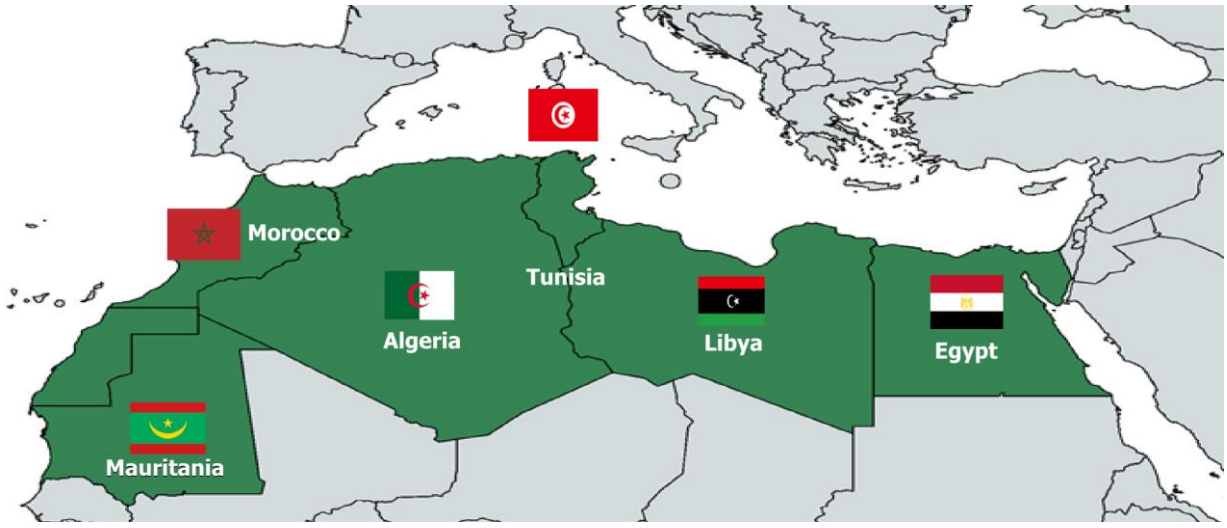
# 2. The North African Energy Context

The North African energy landscape is capable of being a part of the solution to address the complex equation facing neighboring industrialized economies: diversifying both energy sources and suppliers. This aligns closely with the objectives of the REPowerEU initiative for Europe, meaning that there is an already available market for North African energy.

Yet, Europe should not be the only interest zone for North Africa. In fact, the region occupies a strategic geographical crossroad between the Middle East, with its strong investment capacity and experience in large-scale projects and Sub-Saharan Africa, rich in resources and future markets.

The blend is ideal, combining opportunity, geopolitical value, and local development potential.

Figure 1: North African Strategic Geographical Location, with Europe to the North, across the Mediterranean Sea, the Gulf Countries to the East, and Sub-Saharan Africa to the South



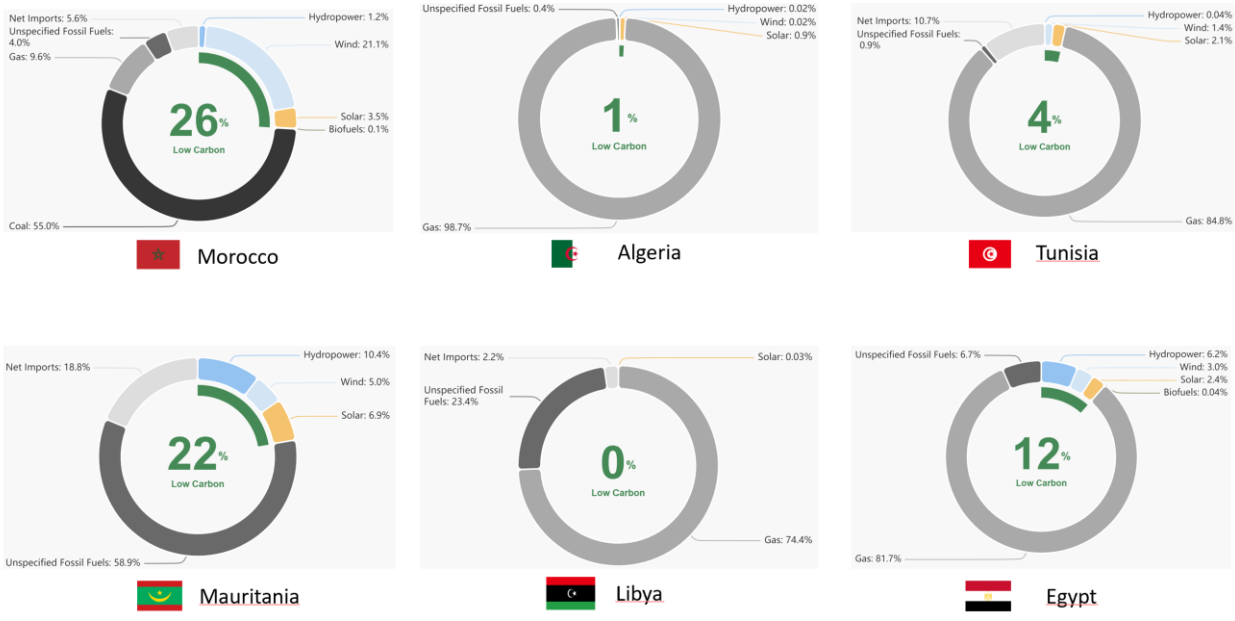
Each country in this region has its own "energy profile". In fossil energy, Algeria ranks sixth in natural gas export and seventh in LNG production capacity globally. Libya ranks first in Africa in proven oil reserves and possesses large untapped natural gas resources.

In renewable energy, Mauritania is one of the most suitable locations worldwide for PV and wind projects with a solar potential estimated at 2,000–2,300 kWh/m² per year and coastal wind speeds reaching up to 9 m/s. The country is also gifted with a high correlation and complementarity between the two sources, making it one of the most suitable locations for green hydrogen production. Egypt and Morocco are among the first countries in the continent to consider large-scale solar projects, such as Noor Ouarzazate Concentrated Solar Power (CSP) plant in Morocco, one of the world's largest, and the prospected Obelisk project in Egypt with a PV capacity of 1.1 GW coupled with a 200 MWh battery storage system. These projects will pave the way for similar large-scale energy plants in Africa.

Finally, Tunisia benefits from a central geographical position and proximity to Europe, which explains its growing role in regional energy infrastructure development. The country comprises the largest inland part of the TransMed pipeline that transports Algerian natural gas to Europe with a capacity exceeding 32 billion cubic meters per year. Tunisia will also link Africa and Europe with the first direct current interconnection with a capacity of 600 MW. The country has also been publishing clear strategic documents outlining its energy transition and net-zero ambitions, with tangible and measurable milestones. It is currently in the process of developing 1.7 GW of renewable energy capacity to be implemented by 2030.

This diversity of resources and infrastructure highlights North Africa's vast potential for investment in fossil fuels, renewable energies, and decarbonization initiatives. The countries' electricity mixes clearly showcase this diversity and potential.

Figure 2: Electricity Mix in 2023




Source: https://lowcarbonpower.org/

Green Hydrogen has also been considered as an investment priority in North Africa to supply the European market and therefore support the decarbonization regional efforts. Several developers have expressed strong interest in the region, particularly in Egypt, Mauritania, Morocco, and Tunisia. It is worth noting that Mauritania is the first country worldwide to legislate a Green Hydrogen Code.

The table below gathers all officially declared Green

Hydrogen production targets that were published by governmental institutions. However, recent trends show a reconsideration of both production and demand estimations, with growing emphasis on supporting "front-runner" countries and hard-to-abate sectors.

Table 2: Officially Declared Targets for Green Hydrogen Production in North Africa

| Algeria | | | |
|---|---|---|---|
| Year | 2030 | 2035 | 2040 |
| $GH_2$ Production (TWh) | | 12,5 | 40 |
| Electrolysers Capacity (MW) | 150 | 1 500 | 2 500 |
| RE Capacity (GW) | | 5 | 20 |
| LCOH (EUR/kg) | | | 0,76 |
| Investments (million USD) | | 9 000 | 25 000 |
| Profitability (million USD/year) | | | 10 000 |

| Tunisia | | | | | | |
|---|---|---|---|---|---|---|
| Year | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
| $GH_2$ Production (kt) | | 320 | 1 100 | 2 100 | | 8 300 |
| Electrolysers Capacity (GW) | | 3,85 | 12.9 | 23.3 | | 86.8 |
| RE Capacity (GW) | | 5 | 16.4 | 28.4 | | 100 |
| Jobs (n) | | 19 000 | 64 000 | 11 6000 | | 434 000 |
| Avoided Emissions (kt $CO_2$eq) | | 217 | 1 400 | 4 800 | | 19 000 |
| LCOH (EUR/kg) | 4,74 | 2,81 | 2,26 | 1,95 | 1,67 | 1,42 |

| Mauritania | |
|---|---|
| Year | If 5% of coastal land is dedicated to GH |
| $GH_2$ Production (MTPA) | 12 |

| Egypt | | |
|---|---|---|
| Year | 2030 | 2040 |
| $GH_2$ Production (% of the Global Market) | 5% (1.57 MTPA) | 8% |

| Morocco | | | |
|---|---|---|---|
| Year | 2030 | 2040 | 2050 |
| $GH_2$ Production (TWh) | 14 | 68 | 155 |
| Electrolysers Capacity (GW) | 3 | 14 | 32 |
| RE Capacity (GW) | 8 | 37 | 78 |
| Jobs (n) | 13 500 | 60 000 | 130 000 |
| Avoided Emissions (kt $CO_2$eq) | 1 000 | 6 000 | 11 000 |
| LCOH (USD/kg) | 2 | | 1 |

Several African countries are currently exploring nuclear energy through Small Modular Reactors (SMRs). This technology is particularly suitable for the continent as it offers flexible power generation and reduces both the financial burden as well as construction time compared to traditional large-scale reactors. However, its environmental risks have to be carefully considered.

# 3. Emerging Technologies and the Role of Artificial Intelligence

Artificial intelligence (AI) is now considered a transformative factor in the global energy landscape. This opens a window for U.S. technology companies and investors to develop AI-powered energy systems and data infrastructure in North Africa.

The increasing need and use of AI has significantly raised electricity demand, required to operate data centers. According to the International Energy Agency (IEA), data

center electricity consumption exceeded 400 TWh in 2024 worldwide, which accounts for 1.5% of the global electricity use. This figure is comparable to the annual electricity consumption of the United States in the same year. This demand is growing by approximately 12% per year and could reach 900 TWh by 2030, comparable to the combined electricity consumption of the U.S. and the EU in 2024.

While the most significant growth in electricity demand for data centers will be from China and the United States, in contrast, Africa's current consumption remains minimal, estimated to be about 1 kWh per capita in 2024, in comparison to 540 kWh in the U.S. African consumption may double by 2030, yet it still highlights a vast gap. However, with abundant renewable and fossil resources, Africa, and North Africa in particular, could attract AI-related infrastructure powered by affordable, clean energy. Such projects would also create direct and indirect employment opportunities. For investors, the region offers highly competitive CAPEX and OPEX for equivalent operational output. Nevertheless, we should keep in mind that such investments are only viable in the presence of a robust digital ecosystem. Thus, these countries should prospect clear strategies to enable investments in AI infrastructure.

It is also worth noting that while it takes two to three years to build a data center, developing a new renewable energy plant requires between three to ten years, depending on the technology, plus additional procurement time. This lag represents a structural challenge that must be addressed through coordinated energy planning and investment, emphasizing once again the importance of adopting AI in general and AI energy-related strategies for North African countries.

Considering the energy mix for AI data centers' consumption, renewable energy is the fastest-growing electricity source, increasing 20% annually from 2024 to 2030 and is expected to cover half of the new demand growth. A large part of this growth is expected to be financed through power purchase agreements with technology companies. Some other investments can be considered directly in co-located renewable facilities. Nevertheless, a substantial portion of new demand will be satisfied by natural gas and coal-fired power plants, totaling 40% of data center electricity in 2030. Moreover, SMRs are expected to play a more considerable role starting from the same year.

AI can be perceived both as a new energy consumer and an enabler of efficiency and optimization of energy infrastructure. In fact, AI applications can enhance electricity production, optimize transmission and distribution, and reduce technical and commercial losses. In the oil and gas sector, AI is already improving subsurface data processing, reservoir simulation, remote operations, predictive maintenance, and regulatory compliance. In power systems, AI can strengthen grid stability and enable smoother integration of renewable electricity.

North Africa has the dual opportunity to supply the energy needed for the global expansion of AI while leveraging AI tools to overcome its own energy challenges.

# 4. Key Challenges and Opportunities

In the last decade, there has been a strong momentum worldwide toward achieving net zero. However, capital flows into developing and middle-income economies remain disproportionately low compared to the magnitude of their energy transition needs. Emerging and developing economies attracted only about 15% of global clean energy investment in 2024, while they comprise nearly half of the world's population and the majority of its future energy demand growth. This imbalance, coupled with the inability to channel sufficient private and concessional resources into markets where the energy transition could generate the greatest developmental and climate dividends, underlines a structural failure in international finance.

Recently, this situation became even more complex with the global drift from clean energies to fossil fuels. This was

notably symbolized by President Trump during his last election campaign in 2024 with the slogan *"Drill, baby, drill"*. This was not the first time this slogan was used, as it was first popularized by the Republican Party in 2008, embodying its long-standing support for energy independence, expanded fossil fuel production, and deregulation.

On one hand, many developing nations, in Africa and worldwide, that possess a considerable amount of fossil fuel resources, find resonance with this approach. From their perspective, economic growth and industrial development are closely related to access to affordable, stable, and reliable energy sources. In contrast, some renewable energies, while environmentally advantageous, can pose challenges due to intermittency, high initial costs, and technical complexity when deployed at scale, especially in emerging markets that usually lack adequate infrastructure and a suitable investment ecosystem. Moreover, oil and gas projects have been established on the continent for over a century, benefiting from mature investment and legal frameworks, well-understood risk structures, and a relatively streamlined implementation process.

On the other hand, for other emerging countries with limited fossil fuel resources, energy transition is primarily viewed through the lens of energy sovereignty. In fact, locally produced renewable electricity reduces dependence on imported fossil fuels, and thus limits political vulnerability to supplier countries and avoids disbursing significant financial resources.

In a 2025 issue brief titled "Scaling up private capital for climate investment in emerging markets", published by the Global Energy Center at the Atlantic Council, Mohseni-Cheraghlou and Frank Willey shed light on the vast climate finance gap in emerging markets and the limited capacity of public funding to meet global clean energy goals. Key findings of this brief are discussed within the USA/North African investment framework.

The major barriers to scaling up energy investment in emerging markets, which are relevant yet not inherent to North Africa, are discussed below.

*1. The first one is the mismatch between perceived and actual risk*. Investors often view projects in these regions as high-risk due to political volatility, inconsistent legal frameworks, exchange rate fluctuations, and weak contractual enforcement. While some of these risks are real, the absence of reliable country and project-level data tends to inflate them further, driving up financing costs. It is in this regard that some International Financial Institutions and Multilateral Development Banks provide political risk insurance and partial credit guarantees, but these mechanisms remain limited in scale and slow in deployment. These kinds of traditional guarantees mobilize roughly one and a half dollars of private capital for every dollar of public guarantee, which is considered a modest ratio given the scale of the global energy investment gap. Yet, these mechanisms are crucial in financing and de-risking large-scale projects. Their role should therefore be strengthened, as they remain key drivers of development in emerging markets. The Obelisk Project in Egypt, mentioned at the beginning of the article, is one of the largest giga-scale renewable energy initiatives that will be established in Africa. The total investment exceeds 590 million USD, with financing provided by institutions such as the African Development Bank (AfDB), the European Bank for Reconstruction and Development (EBRD), and British International Investment (BII).

*2. Second, many guarantees require sovereign backing*, which counts as public debt. But in emerging markets, we are in a context of governments already struggling with fiscal pressures, which considerably discourages their direct participation. In fact, over one-fifth of emerging economies currently spend more on debt service than they receive in total external finance. According to the World Bank's 2024 release on International Debt Statistics, total debt service as a share of exports of goods, services, and primary income reached 0.8% in Algeria, 30.4 % in Egypt, 9.4% in Mauritania, 13.8% in Morocco, and 24.1% in Tunisia. This situation creates a vicious cycle where high debt burdens constrain fiscal space for public co-investment, and the absence of public guarantees in turn deters private investors. Without innovative risk-sharing frameworks, such as climate-exclusive guarantee platforms or blended finance facilities, emerging markets

will continue to face high capital costs that undermine project viability.

*3. The third barrier to overcome is the regulatory uncertainty.* In many emerging countries, energy policies are fragmented, inconsistent, or subject to sudden political changes. Delays in permitting, unclear tariff structures, and the absence of transparent procurement frameworks often discourage long-term investors. However, many countries are learning from past experiences and are now working to establish clear and consistent legal frameworks for the energy sector. For instance, Tunisia is currently developing a Renewable Energy Code and is in the process of updating the Hydrocarbon Code. The integration of shale gas and oil, which has not yet been regulated, is being discussed, considering the country's high potential in this unconventional source of energy. Tunisia also has a relatively well-established civil society that is voicing environmental and social risks. This is rather to be considered as a positive asset for serious investors who are willing to develop projects while preserving the local environment and population.

*4. Fourth, capital market development lags behind energy needs*. Domestic financial systems in most emerging economies remain shallow, offering limited instruments to absorb long-term investment. The underdevelopment of local currency bond markets exposes investors to currency risk, while limited experience with project finance restricts the ability of local banks to participate in complex infrastructure ventures. As a result, many energy projects depend almost entirely on foreign capital, amplifying exposure to global financial shocks.

*5. The fifth barrier to overcome, beyond the financial and regulatory aspects, is infrastructure.* While some emerging countries benefit from decent infrastructure relative to the local needs, large-scale infrastructure remains more than necessary to develop substantial energy projects. This deficit in emerging economies significantly increases the cost and complexity of energy investment. For instance, grid systems in many parts of Africa and the Middle East are outdated or poorly interconnected, which limits the penetration of renewable electricity such as solar and wind. Transmission and distribution losses can exceed 15% of total power generation, as seen in several North African countries. Moreover, weak transport and communication networks can impact project logistics, increasing both construction timelines and transaction costs. These countries are aware of the infrastructure challenge and are actively addressing it through renovation and new projects, creating significant opportunities for investment.

*6. Digitalization represents a further dividing line between opportunity and obstacles*. In fact, a modern energy sector with large-scale projects requires advanced data systems, smart metering, and digital grid management tools. However, broadband access remains below 25% in many low-income countries, and digital literacy is still limited. Similarly to AI, without an enabling digital ecosystem, the operational efficiency and scalability of new energy investments are compromised. North African and emerging countries in general are encouraged to build such an ecosystem that combines digital infrastructure, data transparency, and cybersecurity. This will support the implementation of the next generation of energy projects, such as decentralized renewable systems and smart grids.

After identifying and discussing the main bottlenecks to developing large-scale energy projects in North Africa, some suggestions can be provided to overcome these obstacles.

*1. First, a shift toward innovative financing mechanisms could dramatically alter the investment landscape*. This has already been proven by blended finance structures that combine concessional capital with private funds. Similarly, green, social, sustainable, and sustainability-linked (GSSS) bonds can be a powerful lever to attract institutional investors. However, it is worth noting that the issuance of such bonds in emerging markets remains modest compared to advanced economies. Thus, policymakers should promote standardized taxonomies, robust third-party certification, and credit enhancement facilities that improve investor confidence.

*2. Second, guarantee-based instruments constitute a promising solution.* By covering commercial and political risks without requiring sovereign backing, guarantee

facilities can mobilize large volumes of private capital. New initiatives, such as the Emerging Market Climate Investment Compact (EMCIC), can deliver comprehensive guarantees that streamline approval processes and reduce transaction costs. These mechanisms can mobilize hundreds of billions of dollars for climate-aligned investments across emerging economies. Moreover, the World Bank, with the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA), provides guarantee-based instruments to emerging markets. These instruments, such as credit, trade finance, and political risk guarantees, are designed to de-risk investments and help unlock capital for development projects.

*3. Third, governments should also support the development of local credit rating agencies and risk assessment tools tailored to energy projects*. In fact, ensuring transparency and availability of project data will reduce perceived risk and lower financing costs.

*4. Fourth, regional cooperation offers opportunities to scale up energy markets and attract cross-border investment.* Reinforcing the existing interconnected power grids in North Africa can stabilize variable renewable generation and expand market size. These interconnections can also expand to sub-Saharan Africa, Europe, and the Gulf.

At the African continent level, initiatives like Mission 300 launched by the World Bank and the African Development Bank can provide a structured framework that strengthens investor confidence and facilitates the deployment of both public and private capital to accelerate Africa's energy transition. M300 main objective is to provide electricity access to 300 million people in Africa by 2030 through national energy compacts, project pipelines, and blended finance mechanisms. By clearly defining investment-ready projects, supporting regulatory and utility reforms, and mobilizing concessional and philanthropic capital to de-risk investments, M300 will significantly enhance the bankability of energy projects. It does not only focus on access to electricity as it comprehends other pillars, mainly increasing the share of renewable energy in the electricity mix, grid expansion, off-grid solutions, and regional integration, for instance, through interconnection. This mechanism will create scale and market certainty that can attract private investors, while aligning with climate and sustainability objectives.

While similar partnerships between the United States on one side and African countries on the other can play an important role by combining advanced technology transfer with targeted financial instruments, on February 23, 2025, and following President Trump administration directives, all USAID direct hire personnel were placed on administrative leave globally, with the exception of designated personnel responsible for mission-critical functions, core leadership and/or specially designated programs.

While initiatives such as Power Africa and the Development Finance Corporation (DFC), can leverage public funds to support private investors, according to an article published by the Atlantic Council: "Power Africa can help boost American energy dominance" by Molly Moran in June 2025, the President Trump administration paused funding for Power Africa to reconsider if it aligns with US interests. Launched in 2013, under President Obama's administration, Power Africa aimed to double electricity access in sub-Saharan Africa by using USAID to reduce risks for private investors. The initiative was able to deliver 14.3 GW of new electricity capacity and involved over a hundred American companies in the African energy market. Over ten years, 7 billion USD helped mobilize more than 80 billion USD in commitments from African governments, the private sector, and multilateral development banks. The initiative was a part of the U.S. strategy to strengthen its influence on the continent.

These results illustrate how U.S. public-private partnerships can open opportunities for American firms. This would also reinforce investments in the region, as it would form a competition with the Chinese influence in Africa's energy sector.

On March 7, 2025, at the Powering Africa Summit in Washington, D.C., U.S. Energy Secretary reiterated America's commitment to African energy development. His key message was "more energy of all kinds", hinting at including fossil fuels, as mainly renewable energy was considered so far. He added that the U.S. will focus on

mutually beneficial partnerships rather than imposing a "top-down grand plan."

# 5. Conclusion

North Africa represents a region of growing strategic importance in the energy landscape. Its vast and diverse renewable and fossil energy potential, combined with proximity to Europe, Sub-Saharan Africa, and Gulf countries, makes it an attractive destination for future energy investments.

For the U.S., deeper engagement would mean securing reliable regional partners and opening new markets for American companies and technology.

For North African countries, and African countries in general, attracting U.S. investment would bring diversification and balance to the current landscape, which is increasingly dominated by European, Chinese, and Gulf investors. A more competitive environment would improve project quality, transparency, and financing conditions, and reduce dependency on any single partner.

In this sense, encouraging greater U.S. involvement in North Africa's energy sector is not only a matter of economic interest but also of geopolitical balance. It would help build a more open and resilient regional investment ecosystem, capable of driving sustainable growth, reinforcing regional stability, and contributing meaningfully to the global energy transition.