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Energy Finance in the Middle East and North Africa:

Key actors and trends in fossil fuel dependency

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Glossary

ADCB	Abu Dhabi Commercial Bank
ADG	Abu Dhabi Growth Fund
ADIA	Abu Dhabi Investment Authority
ADNOC	Abu Dhabi National Oil Company
ADPC	Abu Dhabi Power Corporation
ADPF	Abu Dhabi Pension Fund
ADQ	Abu Dhabi Developmental Holding Company (former name)
ADX	Abu Dhabi Stock Exchange
ALNAFT	National Agency for the Valorization of Hydrocarbon Resources (Algeria)
APICORP	Arab Petroleum Investments Corporation
AUM	Assets under management
BPCE	Banque Populaire Caisse d'Epargne
CalSTRS	California State Teachers' Retirement System
CBD	Commercial Bank of Dubai
CCGT	Combined cycle gas turbine
CEDA	Council of Economic and Development Affairs (Saudi Arabia)
CEO	Chief Executive Officer
CEPSA	Compañía Española de Petróleos
COP26	2021 United Nations Climate Change Conference
COP28	2023 United Nations Climate Change Conference
DFM	Dubai Financial Market
DIB	Dubai Islamic Bank
ECA	Export credit agency
EGAS	Egyptian Natural Gas Holding Company
EIA	Emirates Investment Authority
EIG	EIG Global Energy Partners
EMGF	East Mediterranean Gas Forum
ENOC	Emirates National Oil Company
EPC	Engineering, procurement, and construction
ESG	Environmental, social, and governance
ETF	Exchange-traded fund

FADB	First Abu Dhabi Bank
FDI	Foreign direct investment
FID	Final investment decision
GANOPE	South Valley Egyptian Petroleum Holding Corporation
GCC	Gulf Cooperation Council
GECF	Gas Exporting Countries Forum
GEM	Global Exchange Market
GEPIF III	Global Energy & Power Infrastructure Fund III
GEPIF IV	Global Energy & Power Infrastructure Fund IV
GIC	GIC Government of Singapore Investment Corporation (former name)
GPC	Egyptian General Petroleum Corporation
GRF	Kuwait Investment Authority's General Reserve Fund
GW	Gigawatts
HLWG	High-Level Working Group on Green Sukuk
ICD	Investment Corporation of Dubai
IDB	Islamic Development Bank
IEOC	EOC Production B.V.
IGCC	Integrated gasification combined cycle
IHC	International Holding Company
IMF	International Monetary Fund
IOC	International oil company
IPIC	International Petroleum Investment Company
IPO	Initial public offering
ISE	Irish Stock Exchange
JIGPC	Jazan Integrated Gasification and Power Company
KIA	Kuwait Investment Authority
KSA	Kingdom of Saudi Arabia
KKR	Kohlberg Kravis Roberts & Co.
LNG	Liquefied natural gas
LSE	London Stock Exchange
MBS	Mohammed bin Salman Al Saud
MBZ	Mohammed bin Zayed Al Nahyan
MENA	Middle East and North Africa
MSE	Monumental Sports & Entertainment
NGO	Non-governmental organization

NHL	National Hockey League
NOC	National oil company
OIA	Oman Investment Authority
OQ	Oman Oil Company (former name)
PIF	Public Investment Fund (Saudi Arabia)
PSA	Production Sharing Agreement
QIA	Qatar Investment Authority
QNV2030	Qatar National Vision 2030
SACE	SACE Servizi Assicurativi del Commercio Estero (former name)
SCEAI	SCEAI Supreme Council for Economics Affairs and Investment (Qatar)
SDG	SDG Sustainable Development Goals
SFDR	SFDR Sustainable Finance Disclosure Regulation
SFE	SFE Sovereign Fund of Egypt
SNB	SNB Saudi National Bank
SPV	Special purpose vehicle
SWF	Sovereign wealth fund
Tadawul	Saudi Stock Exchange
TAQA	Abu Dhabi National Energy Company
TFT	Tin Fouye-Tabankort
TPG	Texas Pacific Group (former name)
UK	United Kingdom
U.S.	United States of America
UAE	United Arab Emirates

Executive summary

This report presents findings from an in-depth research project conducted by Empower during the second half of 2023 on global financial flows to energy infrastructure projects in the Middle East and North Africa (MENA).[1] Our research covered four types of projects: upstream oil and gas extraction, major oil and gas pipelines, gas-fired power plants, and renewable energy production (primarily solar and wind).

This report includes comprehensive data that can be used as a reference on different countries, sub-sectors, and thematic trends in financing. Additionally, several patterns and key financial actors emerged from the research.

Projected equity investment in the MENA energy sector from 2022-26 shows that renewables, despite outpacing gas power plants, will constitute only 15.4% of a projected total of 879 billion USD in regional energy investment during the period. Iraq (led by upstream extraction) and Saudi Arabia (led by renewables) have the highest projected investment totals.

However, these forward-looking figures diverge significantly from observed debt and equity flows to the region between 2019-23. During that time, the United Arab Emirates and Saudi Arabia far outpaced the rest of MENA. This has much to do with the fact that they are among the countries with the lowest perceived investment risks in the region, considering factors such as military conflict, political uncertainty, and regulatory regimes. This generally mirrors overall levels of foreign direct investment (FDI); countries with ongoing political conflicts, such as Iraq and Libya, have at times seen zero or negative FDI despite major ongoing energy production. Both countries have recently secured major new international capital commitments, though it remains to be seen how many deals are executed.

Debt flows to MENA upstream projects — that is, new or expanded oil and gas extraction — come overwhelmingly from Western banks, led by Citigroup, HSBC, and JPMorgan Chase. State-owned oil companies in the region are not heavily leveraged; some, in countries like Algeria, Iraq, and Libya, are not even able to raise significant amounts of debt from international markets, based on their risk profile. But national oil companies (NOCs) in the Gulf have hundreds of billions of dollars in outstanding debt and, when they need to raise money, they rely on banks based in New York, London, Tokyo, and Paris.

Bonds issued by Gulf NOCs are also overwhelmingly held by Western institutions, in this case asset managers such as BlackRock and Fidelity, as well as insurance companies and, to a much lesser extent, pension funds. In general, BlackRock is a far more active player in the MENA

[1] MENA is herein defined as all Arab countries on the Arabian Peninsula, in the Levant, and on the Mediterranean coast of North Africa.

energy sector than its peers. Though it is not principally a private capital firm, its private equity business has been the single biggest driver of recent pipeline system acquisitions from MENA oil and gas companies, a trend that has raised more capital for MENA oil companies than have IPOs since 2019. This is no small feat; one of those IPOs, Saudi Aramco, was the largest in the history of capitalism.

In fact, BlackRock funds alone have contributed as much cash to MENA oil companies since 2019 as any private bank, except the three mentioned above, to say nothing of the much larger deals it has pulled together with private equity firms in leveraged deals. Among the implications of this turn toward alternative financing by NOCs is the fact that much of their financing now comes from institutional investors, including a sizable list of pension funds and public entities. BlackRock has already had some trouble raising money from more ESGconscious institutions, especially in Europe, for the sort of gas infrastructure fund used to complete these recent deals. Furthermore, private equity firms have deceivingly repackaged debt from the deals as ESG-neutral investments, a practice flagged by some industry experts as greenwashing.

BlackRock has also become an ally to regional governments and sovereign wealth funds (SWFs), providing investment expertise and additional capital to funds like Saudi Arabia's PIF and Kuwait's KIA, which in turn are major shareholders in the company and whose governments have board representation. While BlackRock is known primarily as an asset manager in the United States, competing with straight-laced institutions such as Vanguard and Fidelity whose international business is mostly passive and index-based, CEO Larry Fink has taken a far more ambitious and creative approach to private deals and political relationships in MENA, establishing his company as an emerging financial power broker in the Gulf.

As it concerns oil companies themselves, approximately half of projected upstream investment in MENA is attributable to private-sector international oil companies (IOCs), primarily European multinationals Eni of Italy, Shell and BP of the United Kingdom, and TotalEnergies of France. While these companies are also active in the Gulf, their relationships to North African governments and NOCs put them in a position of greater political and economic leverage than what they enjoy with Gulf counterparts such as ADNOC and Saudi Aramco, which have far more access to international financing. Other, smaller players in MENA upstream investment include the U.S. oil majors, Chinese Stateowned companies, and a mix of Japanese and Korean public and private enterprises.

The transition away from fossil fuel power generation to renewables presents a somewhat different scenario. Here, Western financial institutions do not play as dominant a role, with the exception of North Africa — more concretely, Egypt and Morocco —, where international development financing is most pronounced. SWFs dominate renewable investment in Saudi Arabia and UAE, with a mix of debt financing — primarily commercial —from MENA, China, Japan, Europe, and the U.S. Iraq is a somewhat unique case, as the only country where Chinese investment leads among renewable projects.[2] This is the result of strategic Belt and Road Initiative funding and is not nearly as pronounced elsewhere despite increased Chinese investment across the region.

[2] Chinese investment in Iraq's renewables sector is most pronounced among EPC contractors, as Chinese firms have developed economies of scale in renewable technology development and installation. However, Chinese State-owned enterprises also lead equity investment in renewable projects in Iraq.

Empower's findings on green Islamic finance instruments, most importantly green *sukuk* (a bond equivalent), suggest that they can play a modest role in augmenting capital flows to the sector. While they will not necessarily activate a huge investor base, they are financial assets just as valuable as any other to non-Islamic financial institutions and are currently sitting on the balance sheets of many Western asset managers.

Green energy financing in the MENA region has overtaken spending on gas power generation (136 billion vs. 68 billion USD projected for 2022-26), but capital flows toward gas power show no signs of disappearing, constituting some 70% of electricity generation in the region. Most national governments view gas power generation as a key part of their energy mix well into the future. In some countries, like Iraq, gas power expansion is driven by a need for more energy infrastructure. In other countries, especially in the Gulf, the emphasis is on a transition from oil and gas to a combination of gas and renewables.

Lending to gas power projects comes primarily from MENA banks — in large part owned by SWFs — and multilateral/development banks, followed by their counterparts from East Asia and, lastly, Europe and the U.S. The overwhelming majority of these lenders continue to view gas as a transition fuel, especially in MENA countries, Japan, and Korea, meaning they are not likely to include gas power in exclusionary investment criteria before addressing coal and oil power generation.

Oil power generation is most relevant at scale in Saudi Arabia, Iraq, and Kuwait, while Morocco is the only country still heavily reliant on coal albeit with plans for a phaseout. The country joined the Powering Past Coal Alliance at COP28 and has made major advances in renewable power relative to other MENA countries.

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Introduction

As of October 2024 while this report was publicly released, the Middle East found itself at the center of global geopolitics. Israel's deadly escalation of conflict with multiple actors in the region, with military support from the U.S. and European allies, led to a genocide in Gaza and a growing humanitarian crisis in Lebanon, while pulling regional governments into a whirlpool of military posturing and political uncertainty.

While the stakes are higher than ever, the region's centrality to geopolitics is not new. This has much to do with its place in international fossil fuel markets; the Middle East and North Africa (MENA) is home to an estimated 57% of the world's proven oil reserves and 41% of natural gas reserves. The region therefore finds itself at the center of another crisis: the climate crisis. On the one hand, the region is projected to see greater average temperature increases than anywhere else; on the other hand, the continued extraction and burning of fossil fuels in MENA will continue to provoke deadly climate events on a planetary scale, irrespective of the local consequences.[3]

This report presents findings from a six-month research project conducted by Empower during the second half of 2023 that analyzes the global financial interests and money flows behind the MENA energy sector. It aims to provide a nuanced picture of the key global actors driving fossil fuel dependency in MENA and begins with the supposition that the global movement for a just transition to sustainable energy must be equipped with a complex understanding of said actors. The region is also heavily dependent on fossil fuels for electricity generation, so research includes data and observations about the potential for redirecting financial flows toward renewable energy production in MENA.

Financial research was focused on four types of energy projects: upstream oil and gas extraction, major oil and gas pipelines, gas-fired power plants, and renewable energy production (primarily solar and wind). The report begins by providing an overview of the region's importance to the international energy sector. Section 3, "MENA in global markets: oil, gas, and electricity," examines its relative weight in the fossil fuel and clean energy markets.

The focus then shifts from international commodity sales and energy usage to the financing of energy infrastructure, which will largely determine the future of energy production systems and, therefore, the region's greenhouse gas emissions. Section 4, "MENA energy finance: flows and

[3] UNICEF, "Environment and climate change," www.unicef.org/mena/climate-change-in-mena.

projections," presents broad findings on both observed financial flows to the region (2019-23) and projected investment (2022-26) in each of the four project types considered. Most financial information is drawn from a large database developed by Empower, as described below in "Methodology."

After identifying geographic trends and key actors, such as certain international banks, asset managers, SWFs, and others, we conducted focused investigations on several subjects that were deemed of potential strategic interest for campaigners and other organizations concerned about MENA's role in the climate crisis, as follows:

NOC debt analysis and asset sales: Empower researched several aspects of thefinancing of key national oil companies (NOC) in the Gulf. First, we identified major lenders, underwriters, and bondholders, with a focus on institutional investors that could be pressured to engage or divest. And second, we analyzed the financial actors driving a recent trend of pipeline acquisition deals, which Gulf NOCs have used as an alternative way to obtain billions of dollars in cash without forfeiting control or long-term profits. These deals, led primarily by Western private equity firms, have relied on bond refinancing in Europe, where they have received ESG-neutral ratings due to inadequate regulation.

North African gas exploration: Both State-owned NOCs and private producers are engaging in efforts to dramatically ramp up exploration and production in North Africa (primarily Algeria and Egypt) in the context of increased demand for natural gas from Europe. Empower conducted a closer mapping of the companies and public-private initiatives behind these efforts for use in potential campaigns to respond to Europe's energy needs with green infrastructure — not by drilling new wells across the Mediterranean.

SWFs and the energy transition: In the early stages of research, Empower documented that sovereign wealth funds control much of the investment, both equity and debt, going into power generation projects across MENA, whether directly, through ownership of Stateowned energy companies, or as key shareholders in banks. We conducted an analysis of the involvement of SWFs across both green and gas power investment, as well as research on the strategic orientation of key funds as it concerns climate targets, with an eye to international fora that could be used to pressure SWFs and their allies. Detailed profiles of certain funds are included as annexes.

Islamic finance: Early research also showed that Islamic debt-like instruments, which incorporate Shariah principles, make up a small but notable portion of total debt flows observed in the targeted energy sub-sectors in MENA from 2019-23, primarily due to bond equivalents, where they constituted some 20% of total issuances. We conducted a deeper dive on green Islamic finance, in particular ESG/green *sukuk* issuance, with the objective of quantifying the growing importance of green *sukuk* as part of larger green bond markets in the MENA energy transition. The rapid growth in demand for these financial instruments will require commensurate growth in underwriting by global banks, as well as regulatory adaptations.

Throughout this report Empower presents detailed findings and observations from each area of investigation. Major tendencies and strategic observations are summarized in Section 9, "Conclusions."

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2 Methodology

MENA is herein defined as all Arab countries on the Arabian Peninsula, in the Levant, and on the Mediterranean coast of North Africa. Research covers four types of energy project:

- Upstream oil and gas extraction;
- Major oil and gas pipelines;
- Gas-fired power plants; and
- Renewable energy production (solar, wind, and green hydrogen).

For Section 3, "MENA in global markets: oil, gas, and electricity," Empower reviewed open source reports from the U.S. Energy Information Administration; the Energy Institute’s 2023 Statistical Review of World Energy, which analyzes oil, gas, and electricity production worldwide, as well as international trade flows; the *Centre d'Etudes Prospectives et d'Informations Internationales* (CEPII) International Trade Database at the Product-Level, which includes over 30 years of international transactions; and Global Energy Monitor's Gem.wiki platform, which was used to create maps showing MENA connections to international energy markets.

Empower processed the data and included trend graphs based on production levels in the year 2000. Using this method, all countries’ production becomes comparable, as amounts change over time from their base values in 2000. For instance, any production level would be 100 in 2000, and a 20% increase in any other year, say 2010, would appear as 120, whereas a 100% increase would appear as 200 in relation to the index. Such graphs help compare trends to global levels.

For Section 4, "MENA energy finance: flows and projections," the universe of total investment and financial flows was measured with two different datasets collected during the scoping process. The first is a record of equity and debt flows over the last five years (2019-23), primarily obtained from subscription energy finance platform IJGlobal. The custom database compiled by Empower, while incomplete, provides a detailed snapshot of over 1,500 observed or committed financial transactions. This data is particularly useful in analyzing and comparing debt, as it includes detailed information on balance-sheet and project bonds, term loans, and credit facilities of all types. While bondholder information is not included, both direct lenders and bond underwriters were separately analyzed during scoping. It should be noted that equity investment, particularly by MENA State entities, appears inconsistently in this dataset and is thus underrepresented.

As financial details are unavailable for projects that have yet to reach a Final Investment Decision (FID), another approach was taken to build a uniform dataset of planned energy investment in the region. The Arab Petroleum Investments Corporation (APICORP), a multilateral financial institution headquartered in Dammam, Saudi Arabia, publishes annual, forward-looking research reports on energy investment in the region, based on their own data and subscription platform MEED Projects, among other sources. APICORP was the primary data source for an Empower dataset of total planned investment projects in the aforementioned energy sub-sectors from 2022-26. Complementary data sources used by Empower included company and government publications and websites, industry reporting, and Global Energy Monitor's GEM.wiki. Subscription platforms S&P Capital IQ and Preqin were used for investor data on publicly-traded companies and private equity, respectively.

The resulting dataset is an overview of planned total investment by country for each of the targeted energy project types. Most, but not all, of the data contains proportional ownership information, such that ownership totals can be analyzed by investor across projects. This dataset does not, in most cases, present real, observed financial flows (as does the other Empower dataset), but provides a better picture of planned investment totals in the region through 2026 and of the approximate relative market participation of different equity investors.

Additional data sources, specific to each area of research, included human sources, academic literature, industry reporting, and company publications and websites, among others.

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3 MENA in global markets: oil, gas, and electricity

The Middle East and North Africa (MENA) is home to an estimated 57% of the world's proven oil reserves and 41% of natural gas reserves.[4] It has long been a strategic geopolitical region due to its importance in global energy markets. This remains true as MENA governments position themselves to benefit from the energy disputes related to Russia's war with Ukraine and China's continued emergence as an economic and political superpower. The United Arab Emirates (UAE), for example, has become a major oil trading hub as both it and Saudi Arabia increase imports of Russian oil at discounted rates, a result of Western sanctions.[5] As Saudi Arabia dials back oil production despite the reticence of other OPEC member states, notably its neighbor UAE,[6] both countries have made diplomatic overtures to China as they aim to deal with the U.S. on more independent terms.[7]

Iraq, meanwhile, is now China's third-largest oil supplier behind Russia and Saudi Arabia, and more than half of Iraq's oil production comes from fields where Chinese companies are operators or co-investors.[8] Iraq is by far the world's largest recipient of Belt and Road Initiative (BRI) investment. In response to China's regional success, in September 2023 the U.S. announced an alternative, G20-backed regional trade infrastructure plan in the Middle East,[9] which, however significant it may or may not be, can be read as a tacit acknowledgment of that country's weakened footing in the region.

Meanwhile, Qatar, Algeria, and Egypt have emerged as winners in the race to supply Europe with natural gas and LNG after Russia restricted pipeline supplies.[10] Though U.S. influence in key

[4] Isabelle Keltie, "The latest developments in the MENA region," *Oil Field Technology*, 21 December 2022, www.oilfieldtechnology.com/digital-oilfield/21122022/the-latest-developments-in-the-mena-region.

[5] Benoit Faucon and Summer Said, "Saudi Arabia, U.A.E. Scoop Up Russian Oil Products at Steep Discounts," *Wall Street Journal*, 17 April 2023, www.wsj.com/articles/saudi-arabia-u-a-e-scoop-up-russian-oil-products-atsteep-discounts-d327a2ee.

[6] Sean Matthews, "How the UAE has quietly slimmed Saudi Arabia's lead in the oil game," *Middle East Eye*, 10 August 2023, www.middleeasteye.net/news/how-uae-quietly-slimmed-saudi-arabia-lead-oil-game.

[7] Vivian Nereim, "An Oil-Rich Ally Tests Its Relationship With the U.S.," *The New York Times*, 8 August 2023, www.nytimes.com/2023/08/08/world/middleeast/uae-russia-china-us.html.

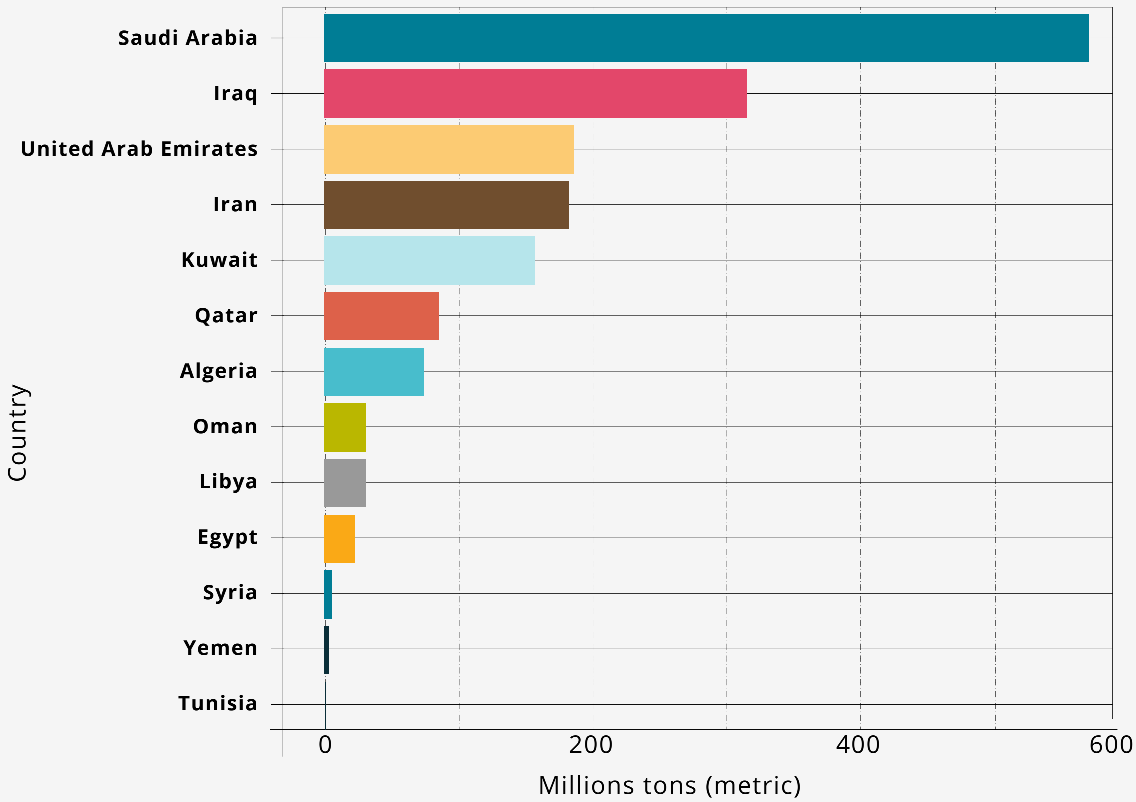
[8] John Calabrese, "Beijing to Baghdad: China's growing role in Iraq's energy sector," *Middle East Institute*, 7 June 2023, www.mei.edu/publications/beijing-baghdad-chinas-growing-role-iraqs-energy-sector.

[9] Nadeen Ebrahim, "New US-backed India-Middle East trade route to challenge China's ambitions," *CNN*, 11 September 2023, edition.cnn.com/2023/09/11/middleeast/us-india-gulf-europe-corridor-mime-intl/index.html.

Gulf countries has diminished, Western actors have ramped up funding of oil and gas extraction investment in North Africa.

Most hydrocarbon exports from the region go to either Asia or Europe. In 2022, the MENA region exported 1.5 billion tons of oil, 80% of which was sent to Asia, including 29% to China, specifically.[11] In the case of gas, the Middle East (here, taken to mean the Gulf states and Iraq) has closer commercial ties to Asia than does North Africa, which mainly exports gas to Europe via pipeline and LNG carriers across the Mediterranean Sea.

Figure 1. Oil exports from MENA countries (2022)



Source: Empower, with data from the Energy Institute.

Recent events point to a major shift in geopolitical dynamics in the region, as Saudi Arabia, United Arab Emirates, Iran, and Egypt were invited to join the BRICS group, an economic consortium composed of Brazil, Russia, China, and South Africa, in August 2023.[12] The move is preceded by a series of Chinese investments in the region, most notably in Iraq but also in member countries of the Gulf Cooperation Council (GCC)[13] and, to a much lesser extent, in North Africa.

[10] Alvaro Escalonilla, "Algeria, Qatar and Egypt: the three Arab countries profiting from Europe's energy crisis," *Atalayar*, 4 January 2023, www.atalayar.com/en/articulo/economy-and-business/algeria-qatar-and-egyptthree-arab-countries-profiting-europes-energy-crisis/20230104112729159631.html.

[11] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

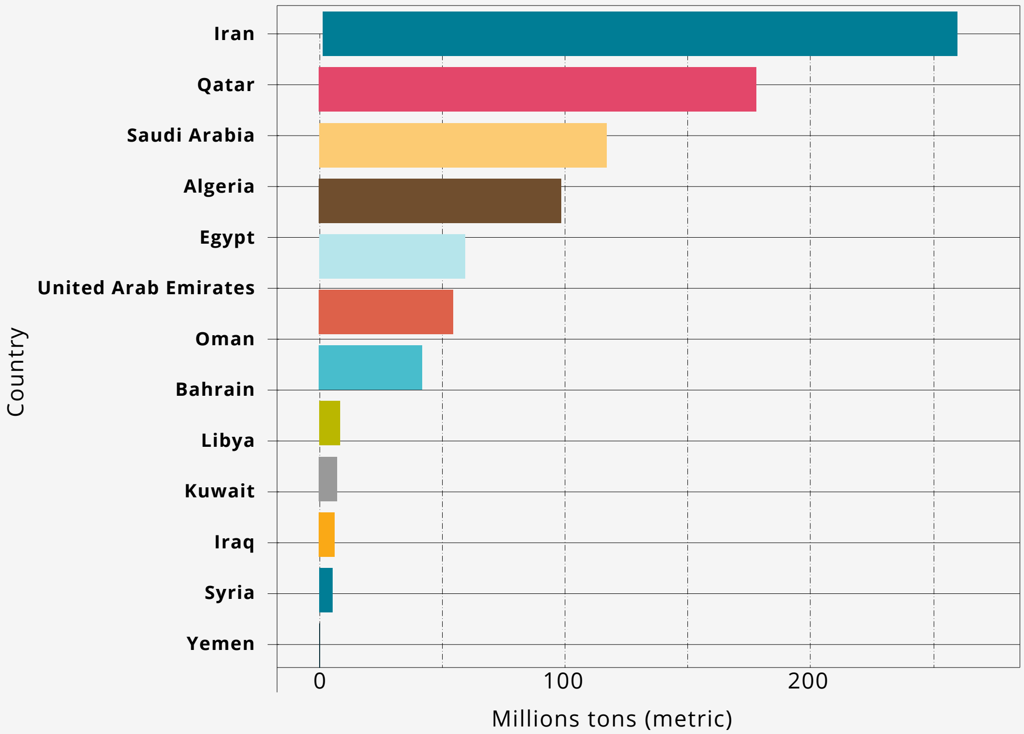
[12] Niamh Kennedy and Anna Chernova, "Saudi Arabia, UAE and Iran among six countries invited to join BRICS group," *CNN*, 24 August 2023, www.cnn.com/2023/08/24/business/saudi-arabia-brics-invitation-intl/index.html

[13] The Gulf Cooperation Council includes Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and UAE.

North Africa's energy exports are mostly comprised of gas, and Algeria and Egypt figure among the top five exporters in the MENA region. Geographically, Algeria's proximity to continental Europe allows it to export gas via pipeline. Meanwhile, Egypt's direct access to the Suez Canal and close proximity to both Europe and the Middle East position it differently. Egypt is an LNG exporter and, recently, began interconnecting with Greece via Cyprus to export electricity to Europe.[14],[15] Iran, Qatar, and Saudi Arabia are the top three gas exporters in the MENA region and the Persian Gulf plays a crucial role in extraction and shipping.

In total, MENA exported 249 billion cubic meters of gas in 2022, 43.5% of which went to Asia and 37.7% to Europe.[16] North Africa sends most exports to Europe, whereas the Middle East sends most to Asia, particularly China.

Figure 2. Gas exports from MENA countries (2022)



Source: Empower, with data from the Energy Institute.

[14] "Country Analysis Executive Summary: Egypt," U.S. Energy Information Administration, 4 April 2022, www.eia.gov/international/content/analysis/countries_long/Egypt/egypt.pdf.

[15] "Country Analysis Brief: Algeria," U.S. Energy Information Administration, 2 March 2023, www.eia.gov/international/content/analysis/countries_long/Algeria/algeria.pdf.

[16] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

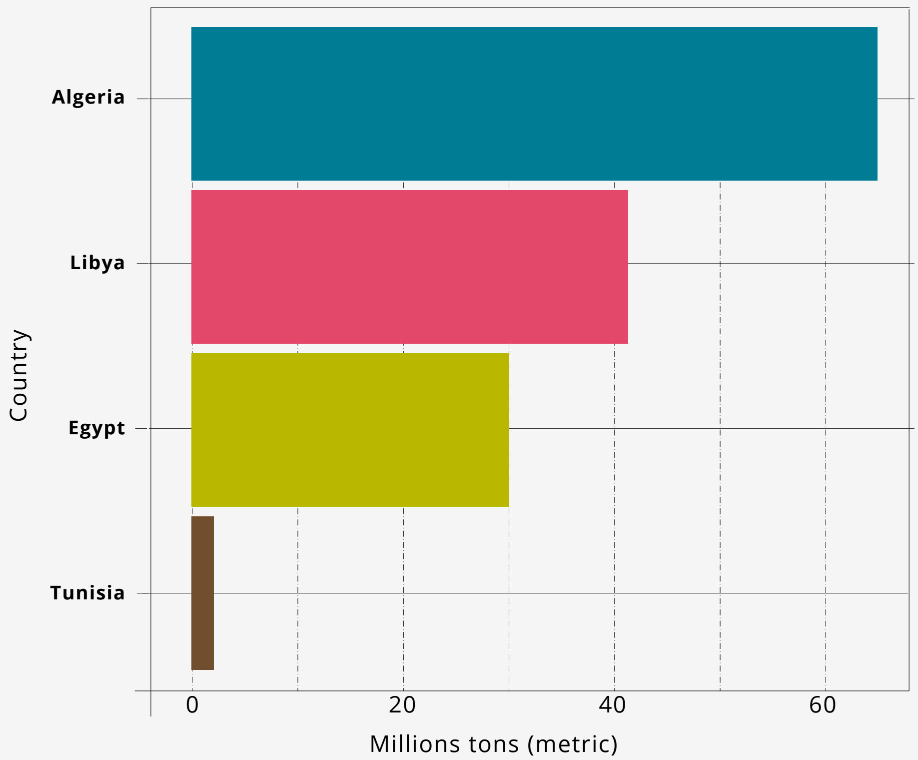
3.1 North Africa

North Africa borders the Mediterranean Sea, a highly transited maritime commercial corridor, and is thus connected to Europe via pipelines and LNG shipments.[17],[18],[19] According to the Energy Institute's 2023 Statistical Review of World Energy, North Africa exported 76.5 million metric tons of crude oil in 2022, 70% of which went to Europe.[20]

In this region, Algeria and Egypt control most of the existing oil and gas production. Although Libya plays an important role in the market, holding around 39% of Africa's proven oil reserves, it is affected by armed militias attacking its infrastructure.[21] As it concerns oil, Algeria and Libya accounted for 78% of all production in North Africa in 2022.[22]

In 2021, Algeria's oil and gas exports suffered a sharp decline as a result of political turmoil and decreasing oil prices.[23] In fact, all countries in North Africa have seen a decline in oil production since 2007.[24]

Figure 3. Oil production in North Africa (2022)



Source: Empower, with data from the Energy Institute.

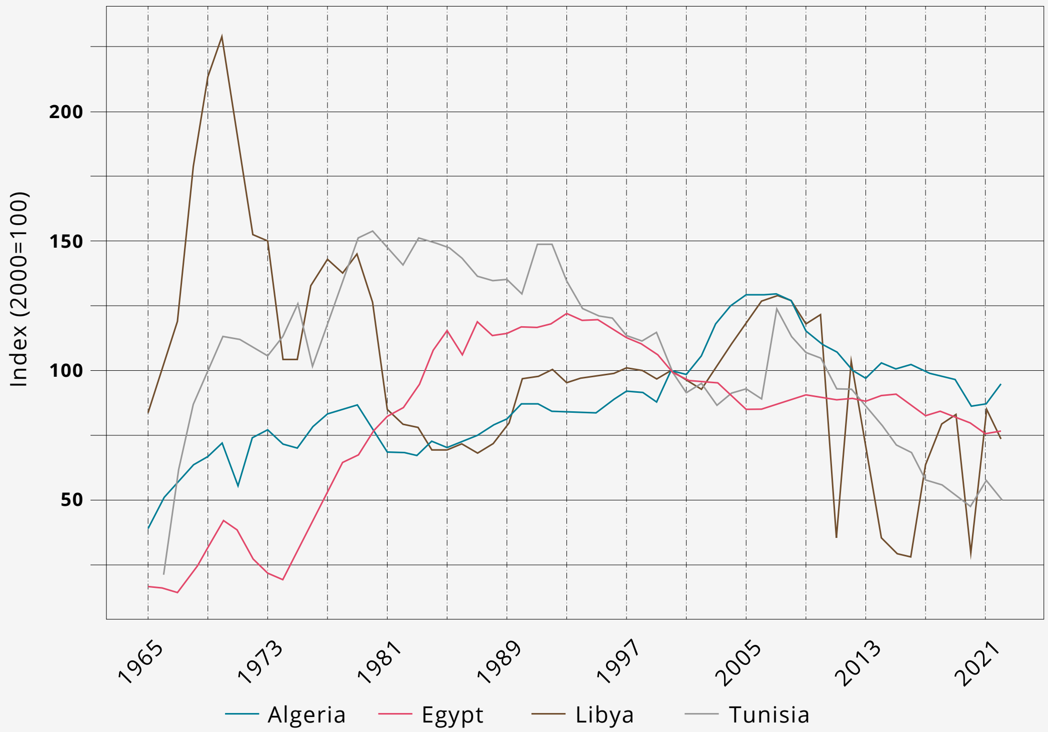
[17] Egypt - Oil & Gas, International Trade Orgnization, www.trade.gov/energy-resource-guide-egypt-oil-and-gas.

[18] "Country Analysis Executive Summary: Egypt," U.S. Energy Information Administration, 4 April 2022, www.eia.gov/international/content/analysis/countries_long/Egypt/egypt.pdf.

[19] "Country Analysis Brief: Algeria," U.S. Energy Information Administration, 2 March 2023, www.eia.gov/international/content/analysis/countries_long/Algeria/algeria.pdf.

[20] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

Figure 4. Oil production trend in North Africa (1965-2022)



Source: Empower, with data from the Energy Institute.

However, recent plans show Europe and the U.S. intend to heavily invest in North Africa to provide alternative access to energy and gas for Europe in the midst of the Ukraine-Russia war.[25],[26] This has resulted in additional projects connecting Europe to North Africa for the transportation of gas, oil, and electricity between the two regions, concentrated in four strategic corridors: Morocco-Gibraltar; Algeria-Sardinia; Tunisia-Sicily; and the Suez Canal in Egypt (see Map 1).

In January 2020, Egypt, Israel, Italy, Greece, Cyprus, Jordan, and Palestine signed an agreement creating the East Mediterranean Gas Forum (EMGF), an international consortium that includes investors and producers, and which is already responsible for promoting several major projects in the region.[27]

[21] Country Analysis Executive Summary: Libya, U.S. Energy Information Administration, 9 May 2022, www.eia.gov/international/content/analysis/countries_long/Libya/pdf/libya.pdf.

[22] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

[23] Verity Ratcliffe, Souhail Karam, and Salma El Wardany, "Algeria's oil and gas exports plummet," *Al Jazeera*, 8 February 2021, www.aljazeera.com/economy/2021/2/8/algerias-oil-and-gas-exports-plummet.

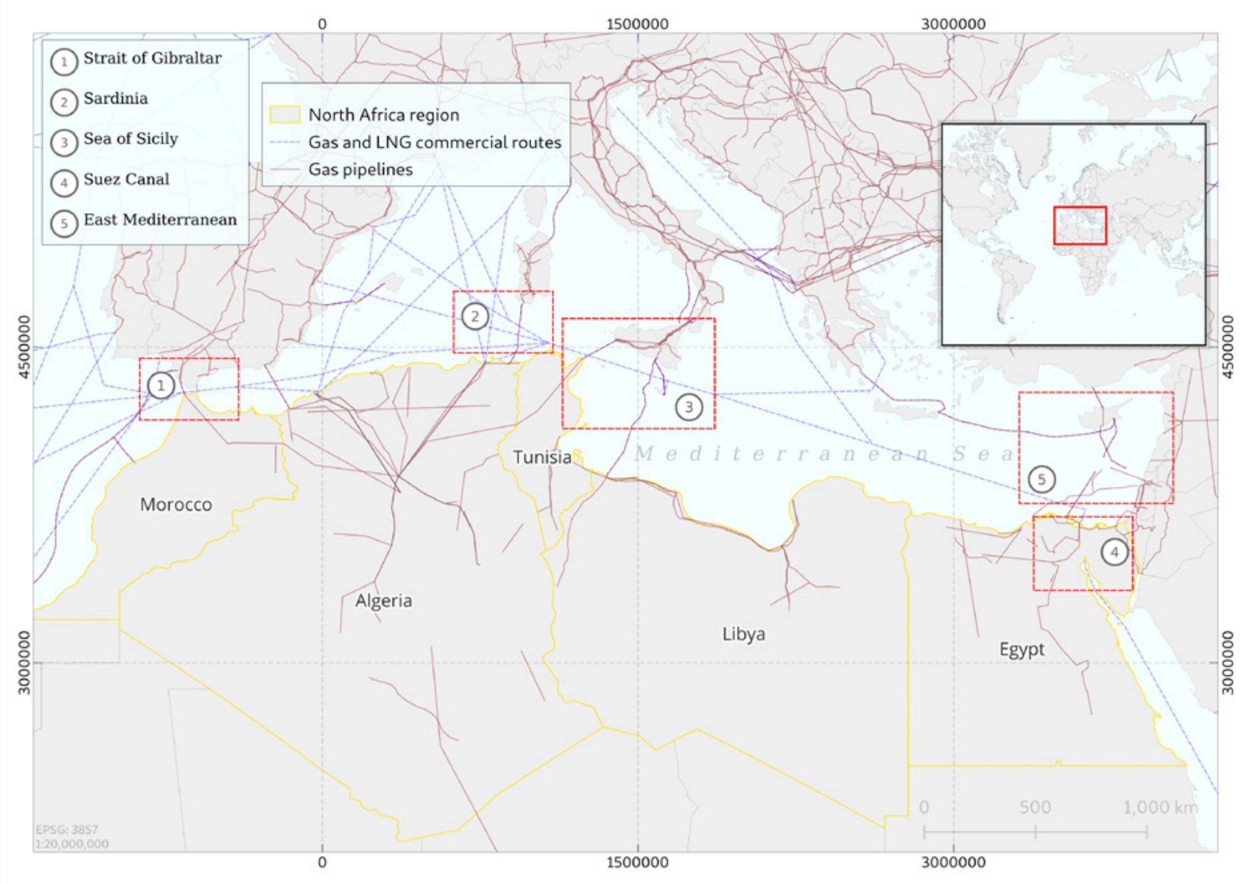
[24] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

[25] "2022 positions Egypt as regional energy hub", *Zawya*, 29 December 2022, www.zawya.com/en/economy/north-africa/2022-positions-egypt-as-regional-energy-hub-fbf2rhgt.

[26] Stephen Jewkes, Marwa Rashad, and Lamine Chikhi, "U.S. reaches out to foreign producers in Algeria on gas options -sources," *Reuters*, 9 February 2022, www.reuters.com/business/energy/us-reaches-out-foreignproducers-algeria-gas-options-sources-2022-02-09.

[27] "East Mediterranean states formally establish Egypt-based gas forum," *Reuters*, 22 September 2020, www.reuters.com/article/us-mideast-energy-idUSKCN26D14D.

Map 1. Gas interconnection in North Africa and the Mediterranean Sea (2023)



Source: Empower, with data from Global Energy Monitor.

In North Africa, only Egypt, Algeria, and Libya produce significant amounts of gas and have seen, with the exception of Algeria, a nearly 100% increase in production since 2007 (see Figure 5). Algeria and Egypt accounted for 43% of all LNG exports in Africa in 2022. Nigeria, the largest exporter on the continent, accounts for 36% of African LNG exports. As it concerns gas exports by pipeline, 97% of pipeline exports from Africa went to Europe. In 2022, Algeria and Egypt, respectively, shipped 13.37 and 6.48 million cubic meters of LNG to Europe.[28]

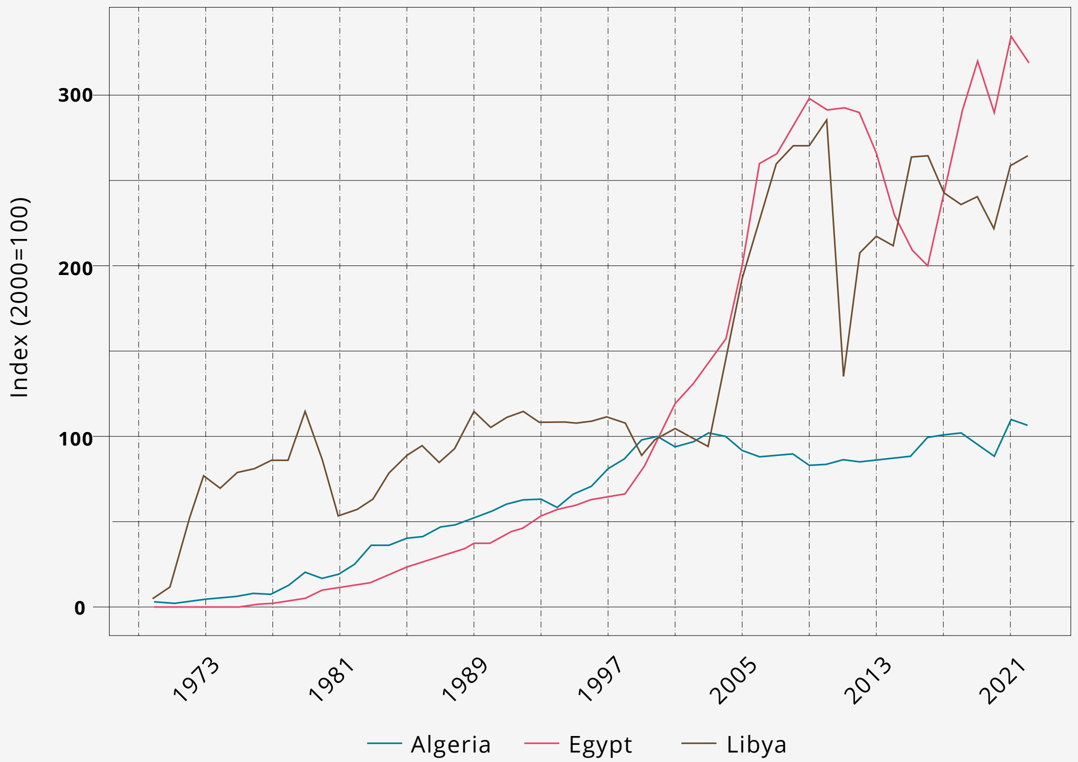
Algeria's LNG shipments in 2022 were mainly sent to Turkey (38%), France (28%), and Spain (13%).[29] Its close proximity to Europe through Sardinia and Sicily has allowed for the construction of pipelines on the ocean floor, sending 88% of all pipeline-related exports to Europe and the remainder to other African countries. Although Tunisia depends entirely on Algerian gas, it is geographically closer to Sicily than its eastern neighbor and is crossed by the Trans-Mediterranean natural gas pipeline, built to transport natural gas from Algeria to Italy via Tunisia and Sicily, which is one of the largest gas pipelines in the world.[30],[31]

[28] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

[29] "Country Analysis Brief: Algeria", U.S. Energy Information Administration, 2 March 2023, www.eia.gov/international/content/analysis/countries_long/Algeria/algeria.PDF.

In 2023, Egypt was expected to produce around 7.5 million metric tons of LNG as result of the European Union signing a production deal with Egypt and Israel in 2022.[32],[33] However, in July 2023, reports showed a 75% drop in Egypt's natural gas exports amid rising domestic consumption and following a sharp decline in global gas prices at the beginning of the year.[34] According to the Energy Institute's 2023 statistical report, Egypt exported 72.5% of its LNG shipments to Europe, particularly Turkey (24.4%) and Spain (15%), and 24.3% to the Asia-Pacific region.[35]

Figure 5. Gas production trend in North Africa (1970-2022)



Source: Empower, with data from the Energy Institute.

Although greatly affected by internal turmoil, in 2020 Libya exported 350,000 barrels of crude oil per day (down from 1.1 million in 2019), primarily to Europe (63%) and Asia and Oceania (25%).[36] According to the Energy Institute's 2023 statistical review, Libya exported 2.49 billion

[30] "Tunisia - Country Commercial Guide", International Trade Administration, 30 July 2022, www.trade.gov/country-commercial-guides/tunisia-electrical-power-systems-and-renewable-energy.

[31] "Trans-Mediterranean Natural Gas Pipeline", Hydrocarbons Technology, www.hydrocarbonstechnology.com/projects/trans-med-pipeline.

[32] Sarah El Safty and Nafisa Eltahir, "EU expects Egypt to maintain LNG export levels -official," *Reuters*, 13 February 2023, www.reuters.com/business/energy/eu-expects-egypt-maintain-lng-export-levels-official2023-02-13.

[33] Sarah El Safty and Ari Rabinovitch, "EU, Israel and Egypt sign deal to boost East Med gas exports to Europe," *Reuters*, 15 June 2022, www.reuters.com/business/energy/eu-israel-egypt-sign-deal-boost-eastmed-gas-exports-europe-2022-06-15.

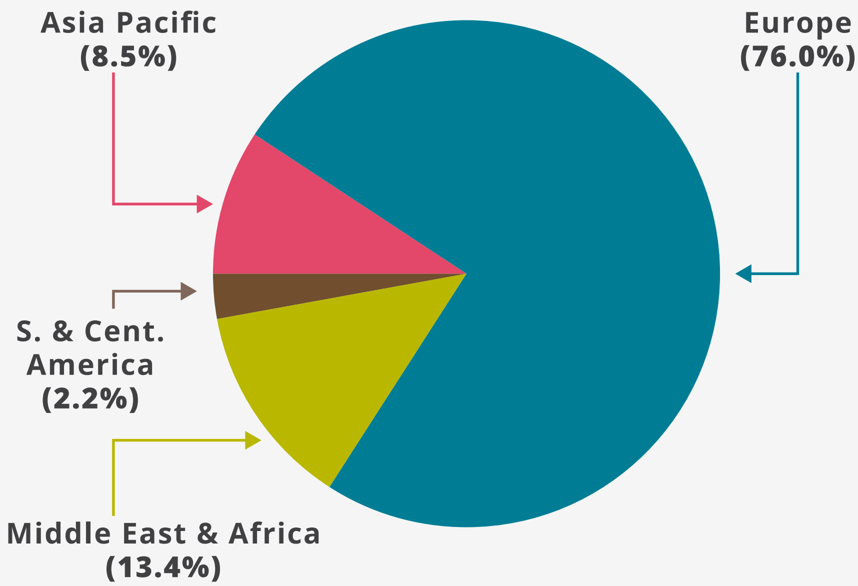
[34] Noha El Hennawy, "Egypt's lucrative natural gas exports may be over: experts," *Zawya*, 10 July 2023, www.zawya.com/en/business/energy/egypts-lucrative-natural-gas-exports-may-be-over-experts-wzhcmcjo.

[35] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

[36] Country Analysis Executive Summary: Libya, U.S. Energy Information Administration, 9 May 2022, www.eia.gov/international/content/analysis/countries_long/Libya/pdf/libya.pdf.

cubic meters of gas via pipeline in 2022 to Europe.[37] In 2022, gas exports were overwhelmingly sent to Italy (97%).[38] It is worth noting that both Algeria and Libya export gas to Europe through Italy. Italian energy company Eni S.p.A. is heavily involved in Algeria and, in August 2023, Libya's National Oil Corporation announced Eni and Algeria's Stateowned oil and gas producer Sonatrach would lift the *force majeure* — a clause used in contracts when unforeseeable and unavoidable catastrophes occur, such as an active war — and resume exploration in three areas of Libya.[39]

Figure 6. Gas exports from North Africa (2022)



Source: Empower, with data from the Energy Institute.

According to the *Centre d'Etudes Prospectives et d'Informations Internationales* (CEPII), North Africa exported 412 million USD in electricity in 2022. Given the nature of electricity as a resource, geographical proximity is a key factor in determining exports' final destinations. In the case of Egypt, most exports went to Libya and Jordan, and a small amount to Palestine. In order to reach Palestine and Jordan, electrical lines need to pass through Israel. Morocco sent most of its electricity exports to Spain (see Map 1) and Algeria sent electricity it to its continental neighbors Tunisia and Morocco.[40]

In 2022, the Morocco-UK Power Project was announced, amounting to a massive 16.3 billion USD investment. The plan is to connect the two countries with a 3,800-kilometer subsea cable system

[37] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

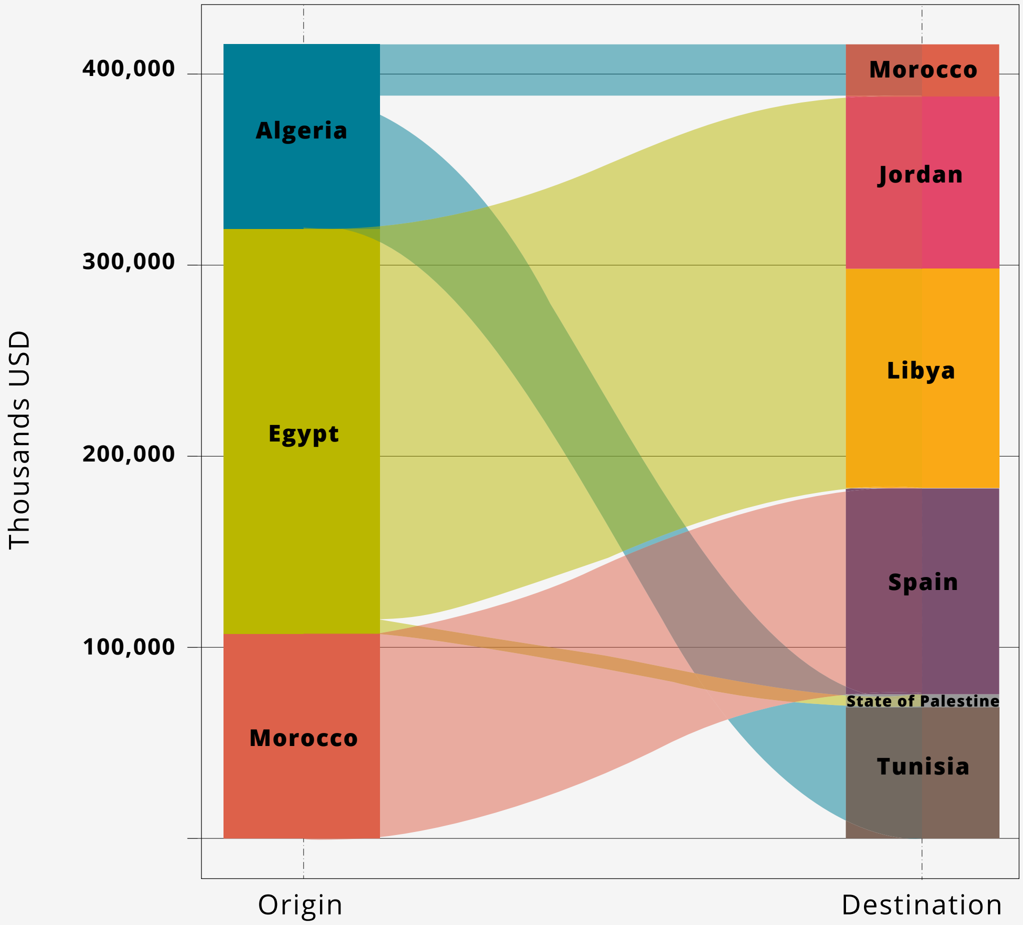
[38] "Petroleum Gas in Libya," Observatory of Economic Complexity, https://oec.world/en/profile/bilateralproduct/petroleum-gas/reporter/lby.

[39] "Libya's NOC says ENI, BP, Sonatarch to lift force majeure and resume activities," *Reuters*, 3 August 2023, www.reuters.com/business/energy/libyas-noc-says-eni-bp-sonatarch-lift-force-majeure-resume-activities2023-08-03.

[40] Guillaume Gaulier and Soledad Zignago, "BACI: International Trade Database at the Product-Level. The 1994-2007 Version," CEPII Working Paper N°2010-23, October 2010, www.cepii.fr/CEPII/en/publications/wp/abstract.asp?NoDoc=2726.

to supply the UK with over 7 GW of solar and 3.5 GW of wind power.[41],[42] In 2020, Egypt exported 6.4 billion USD in electrical power exports, which is set to increase as the region is further developed as a power hub.[43] Egypt's geographical location positions it strategically for electrical energy distribution, as it is able to interconnect with both the Arabian Peninsula and Europe. In fact, Egypt is already connecting its electrical grid with Saudi Arabia.[44] In 2022, North Africa produced 34.7% of all renewable energy generated in Africa, with Egypt and Morocco leading production. That same year, renewable energy accounted for 5.29% of generated electricity in North Africa, of which 59.5% was derived from wind and 40.5% from solar energy.[45]

Figure 7. Electricity exports from North Africa (2022)



Source: Empower, with data from CEPII.

[41] Arab Petroleum Investments Corporation, "MENA Energy Investment Outlook 2022-2026," June 2022, www.apicorp.org/publication/mena-energy-investment-outlook-2022-2026.

[42] Michelle Lewis, "The world's longest subsea cable will send clean energy from Morocco to the UK [update]," *Electrek*, 21 April 2022, electrek.co/2022/04/21/the-worlds-longest-subsea-cable-will-send-clean-energyfrom-morocco-to-the-uk.

[43] "Egypt exports of electrical energy worth $6.407B," *Egypt Today*, 6 October 2020, www.egypttoday.com/Article/3/92781/Egypt-exports-of-electrical-energy-worth-6-407B.

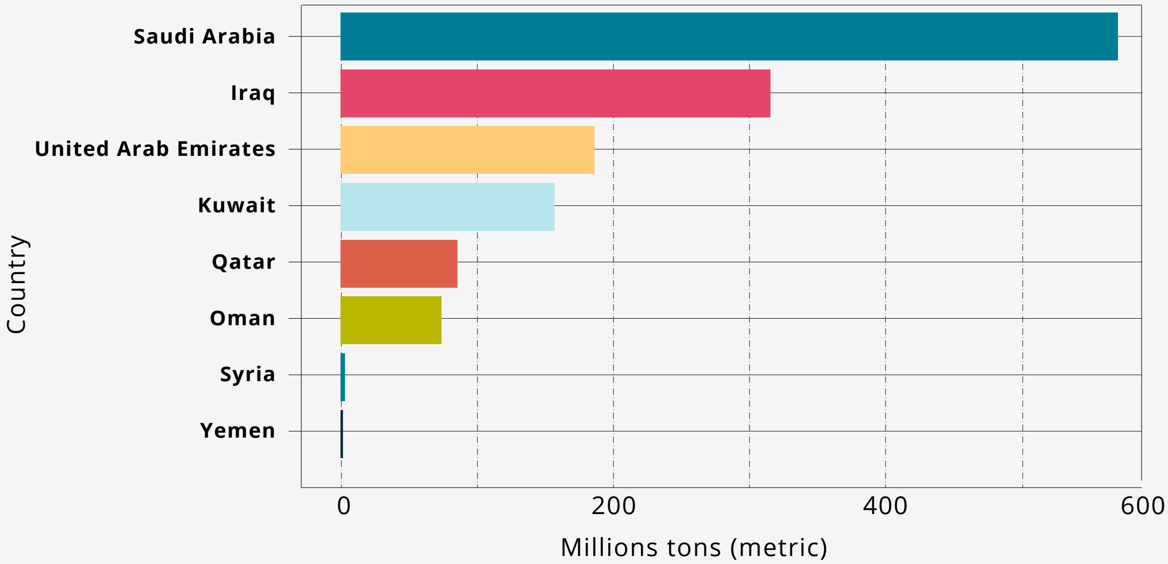
[44] "Saudi-Egypt interconnection awards confirmed," *Power Technology*, 15 October 2021, www.powertechnology.com/comment/saudi-egypt-interconnection.

[45] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

3.2 Middle East

In addition to North Africa, this research considered all Arab countries in the Levant and Arabian Peninsula, characterized here as the Middle East. This region was responsible for 28.7% of all global oil production in 2022. Countries facing the Persian Gulf accounted for 95% of all oil produced in MENA, making the Gulf and the Red Sea strategic locations in the region's access to international markets and production. In 2022, 81.9% of the Middle East's oil exports went to Asia-Pacific, with 29.3% going to China alone (see Figure 9).[46]

Figure 8. Oil production in the Middle East (2022)



Source: Empower, with data from the Energy Institute.

Saudi Arabia, UAE, and Iraq were the top three oil exporters to China and Asia-Pacific, shipping over 296 million metric tons in 2022.[47] According to 2021 estimates, Saudi Arabia held 15% of the world's proven oil reserves, positioning it as the key member of the Organization of the Petroleum Exporting Countries (OPEC). In 2020, oil exports accounted for 70% of the country's total exports, of which 77% went to Asia.[48] In 2020, UAE was the seventh-largest oil producer in the world and held around 5% of the world's proven oil reserves. The United Arab Emirates exported primarily to Japan.[49]

Iraq is the second-largest crude oil producer in OPEC, after Saudi Arabia, and represents 8% of proven global oil reserves. Iraqi oil exports were nearly 3.5 million barrels per day in 2021, of which 87% were shipped from its southern terminals on the Persian Gulf. India, China, and South

[46] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

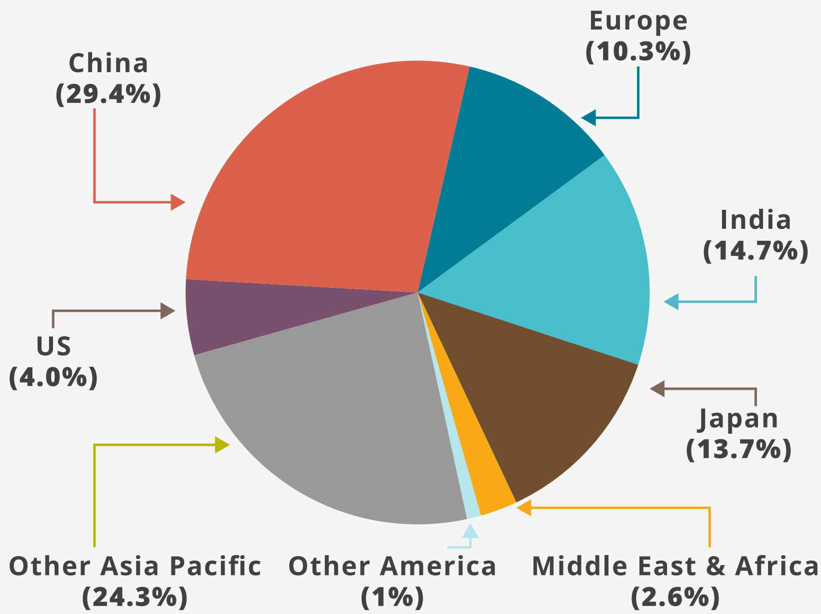
[47] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

[48] "Country Analysis Executive Summary: Saudi Arabia," U.S. Energy Information Administration, 2 December 2021, www.eia.gov/international/content/analysis/countries_long/Saudi_Arabia/saudi_arabia.pdf.

[49] "Country Analysis Executive Summary: United Arab Emirates," U.S. Energy Information Administration, 6 May 2020, www.eia.gov/international/content/analysis/countries_long/United_Arab_Emirates/uae_2020.pdf.

Korea imported 64% of Iraq's crude oil in 2021. In 2022, the U.S. Energy Information Administration pointed out that, as a result of the Russia-Ukraine war, Russia was sending more oil and gas to Asia, opening up new commercial possibilities for the Middle East to send oil to Europe.[50]

Figure 9. Oil exports from the Middle East (2022)



Source: Empower, with data from the Energy Institute.

Iraq is not the only country struggling with internal political turmoil or war in the region. Yemen has been engaged in a civil war since 2014, while Syria has been at civil war since 2011, and the latter has seen an 83.75% decline in oil production since 2000. The only two countries experiencing sharp declines in oil production over the past 10 years have been Syria and Yemen.[51]

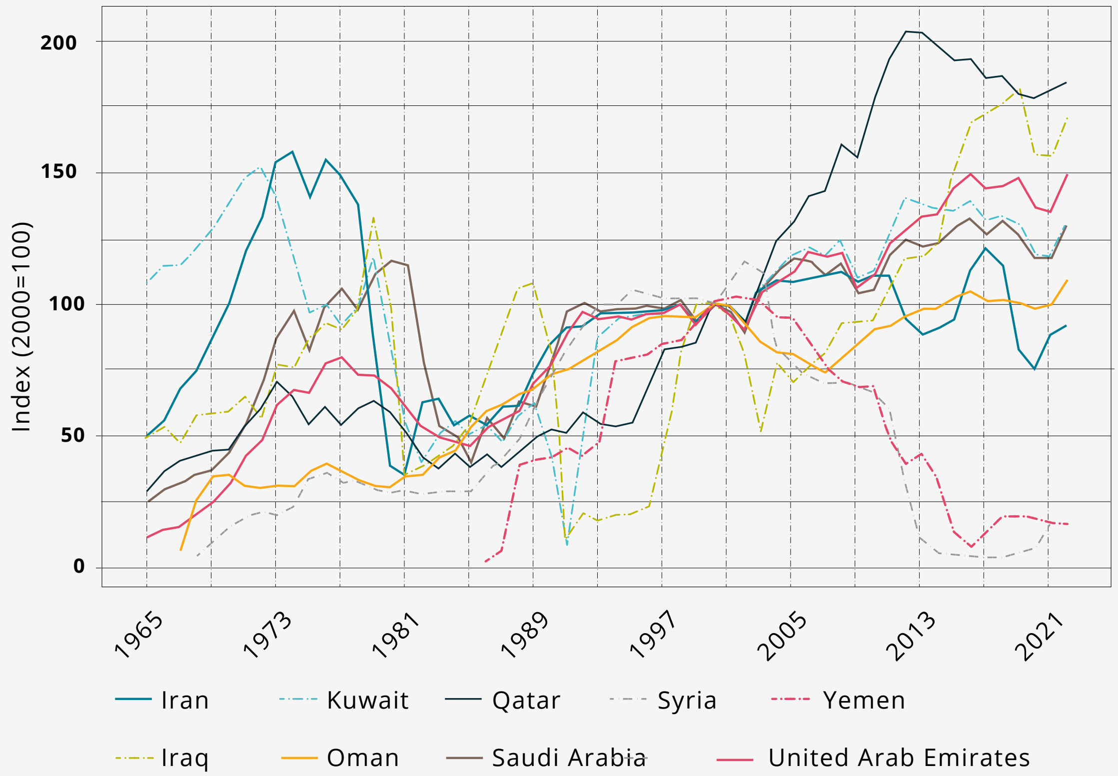
On the other hand, Qatar has experienced an 84% increase in oil production since 2000, and holds the 14th-largest oil reserves in the world. However, its reserves are declining and the country has begun using enhanced oil recovery (EOR) to sustain production capacity. Iraq has also seen a similar increase in oil production.[52]

[50] "Country Analysis Executive Summary: Iraq," U.S. Energy Information Administration, 28 September 2022, www.eia.gov/international/content/analysis/countries_long/Iraq/iraq_exe.pdf.

[51] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

[52] "Country Analysis Brief: Qatar," U.S. Energy Information Administration, 28 March 2023, www.eia.gov/international/content/analysis/countries_long/Qatar/qatar.pdf.

Figure 10. Oil exports from the Middle East (2022)



Source: Empower, with data from the Energy Institute.

Regarding natural gas exports, global trade patterns are similar; most exports are sent to the Asia-Pacific region, in particular China, South Korea, and India. From 2000-22, Qatar's gas production increased 592% and it was the world's third-largest gas exporter and second-largest LNG exporter in 2021. In fact, Qatar's LNG exports accounted for 83.5% of the Middle East's exports (59.8% considering North Africa's LNG exports) and 21% of the world's LNG exports. Qatar also exports gas through a pipeline system (Dolphin Pipeline) that connects with the United Arab Emirates and Oman, which transported 0.7 trillion cubic feet in 2021.[53],[54]

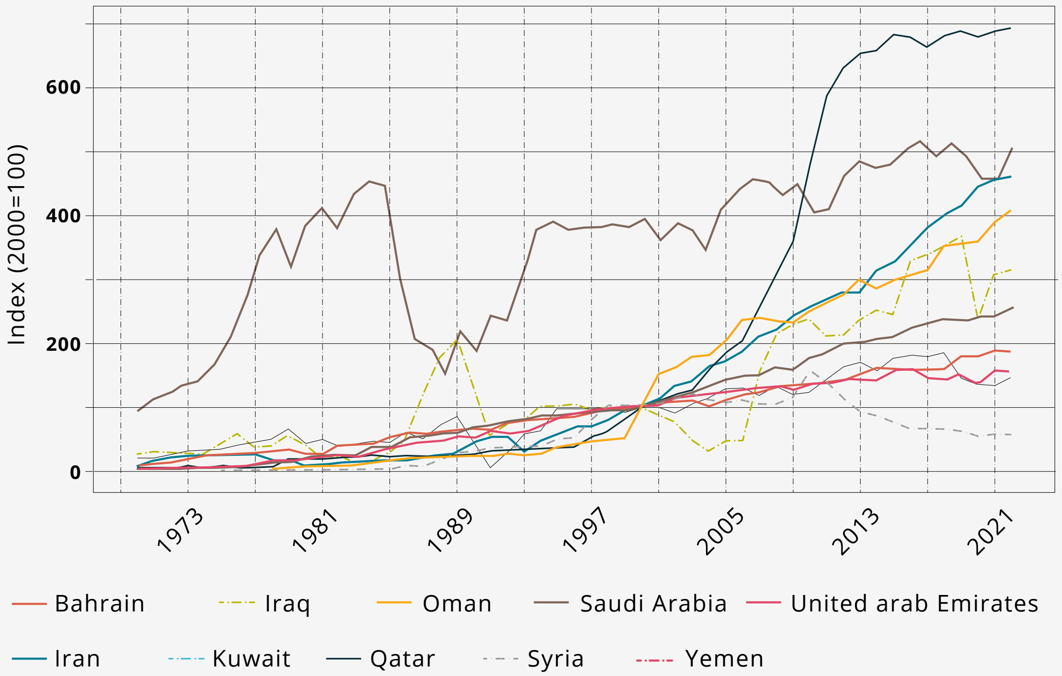
Iraq's gas production increased 215% from 2000-22 and it held an estimated 131 trillion cubic feet in proven natural gas reserves, the 12th-most in the world. Because the country lacked sufficient pipeline capacity, Iraq had to flare 630 billion cubic feet of gas in 2021.[55] The second-largest LNG exporter in the Middle East is Oman; however, its exports are far eclipsed by Qatar's, which are 7.6 times greater in magnitude.

[53] *Ibid*.

[54] 2023 Statistical Review of World Energy, Energy Institute, www.energyinst.org/statistical-review.

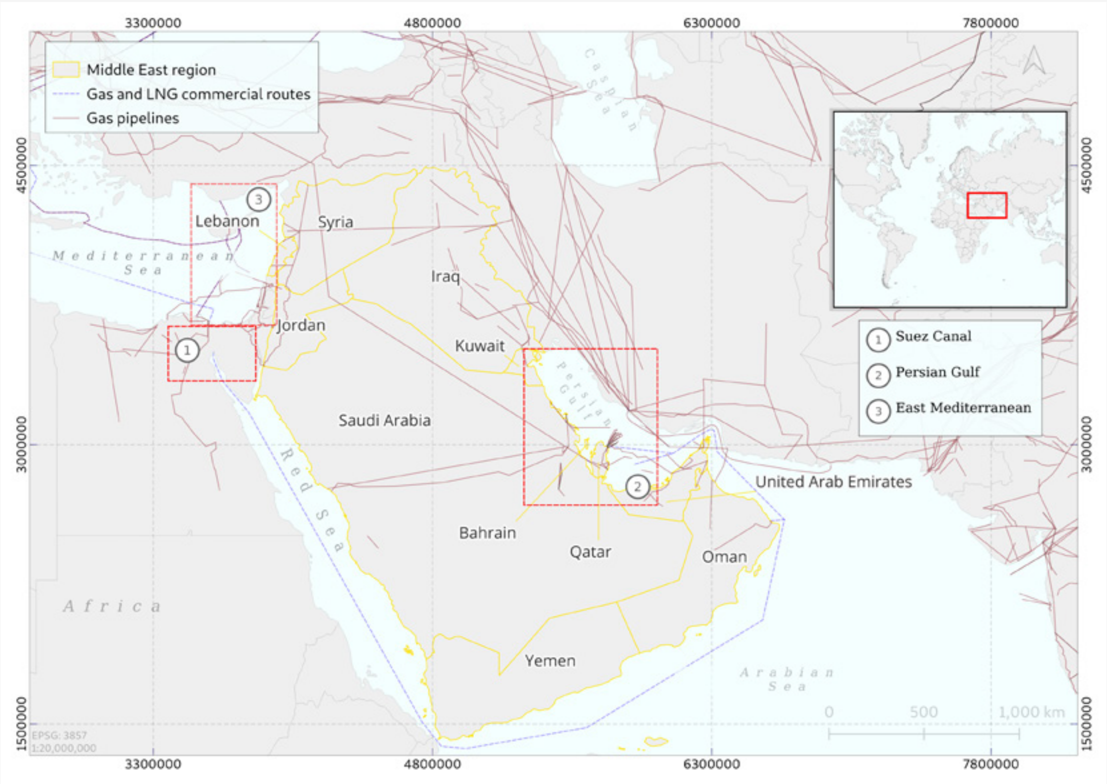
[55] "Country Analysis Executive Summary: Iraq," U.S. Energy Information Administration, 28 September 2022, www.eia.gov/international/content/analysis/countries_long/Iraq/iraq_exe.pdf.

Figure 11. Gas production trends in the Middle East



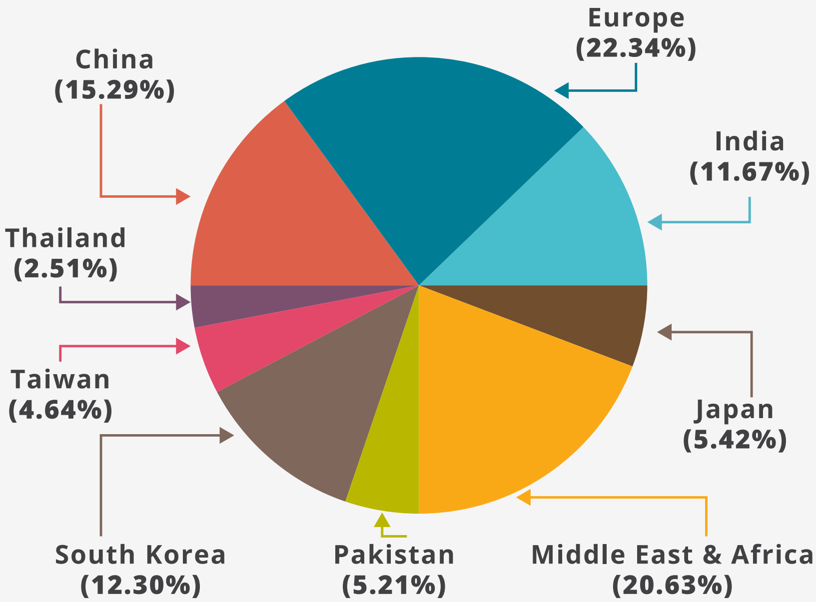
Source: Empower, with data from the Energy Institute.

Map 2. Gas interconnection in Middle East and the Persian Gulf (2023)



Source: Empower, with data from Global Energy Monitor.

Figure 12. Gas exports from the Middle East (2022)



Source: Empower, with data from the Energy Institute.

The Middle East sent 22.34% of its gas exports to Europe and 20.63% to MENA in 2022, the latter in large part to power the electrical grid. For instance, Saudi Arabia did not import or export natural gas in 2021, and uses up to 72% of its gas to produce electricity.[56] The second-largest gas exporting country in the region, Oman, sent nearly 84% of its gas exports to South Korea and Japan, but consumed over 70% of its gas production internally.[57]

It is worth noting that most of Iraq's gas is *associated* gas, meaning it is derived from oil production and not directly from geological deposits. In addition, Iraq imports gas from Iran.[58] The UAE is a net importer of natural gas since 2008, making Qatar, by far, the largest natural gas exporter in the region.

As of 2021, electricity exports from the region amounted to 235 million USD from the UAE, Jordan, Oman, and Qatar to the countries presented in Figure 13. Saudi Arabia did not export electricity from 2017-21, though this could change in the near future.

[56] "Country Analysis Executive Summary: Saudi Arabia," U.S. Energy Information Administration, 2 December 2021, www.eia.gov/international/content/analysis/countries_long/Saudi_Arabia/saudi_arabia.pdf.

[57] "Country Analysis Executive Summary: Oman," U.S. Energy Information Administration, 7 January 2019, www.eia.gov/international/content/analysis/countries_long/Oman/oman_exe.pdf.

[58] "Country Analysis Executive Summary: Iraq," U.S. Energy Information Administration, 28 September 2022, www.eia.gov/international/content/analysis/countries_long/Iraq/iraq_exe.pdf.

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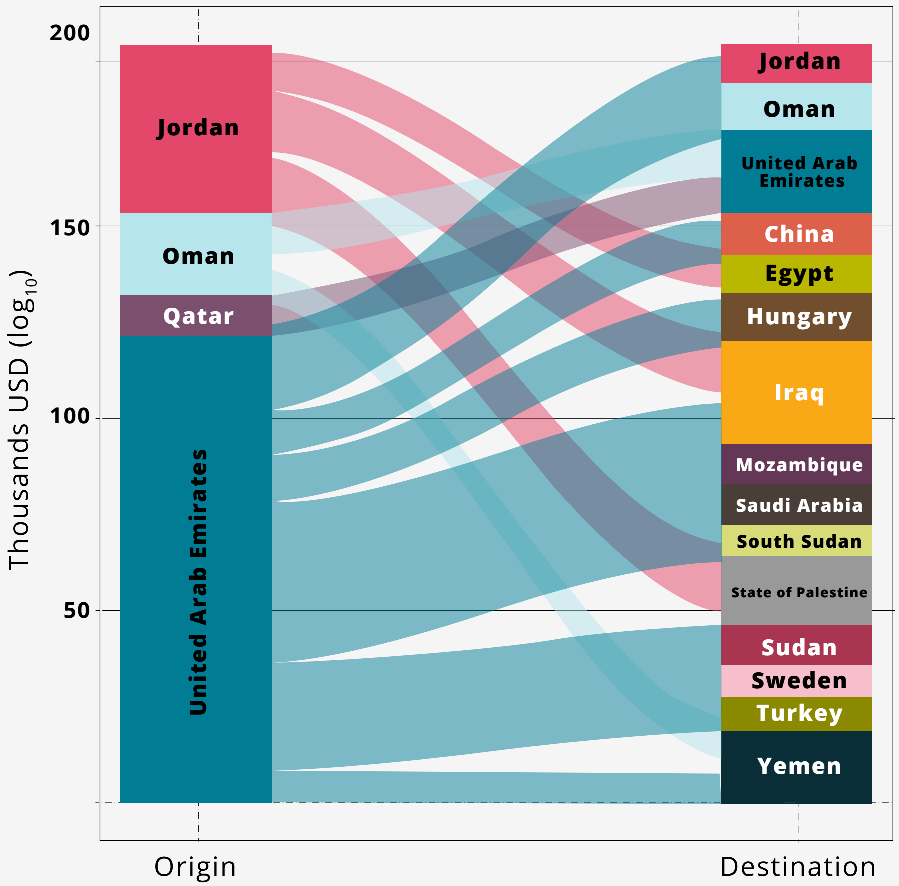
Figure 13. Electricity exports from Middle East (2022)



Source: Empower, with data from the Energy Institute.

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4 MENA energy finance: flows and projections

From 2022-26, the Arab Petroleum Investments Corporation (APICORP) expects to see 879 billion USD in energy investments across MENA countries, about 70% of which corresponds to projects still in planning stages. This total accounts for oil and gas (upstream, midstream, and downstream), petrochemicals, power projects (fossil fuels and renewable), and hydrogen. A project-by-project analysis of APICORP's numbers, with some complementary data, yields the following breakdown in sub-sectors relevant to this report.[59]

Table 1. Projected MENA investment by project type (2022-26)

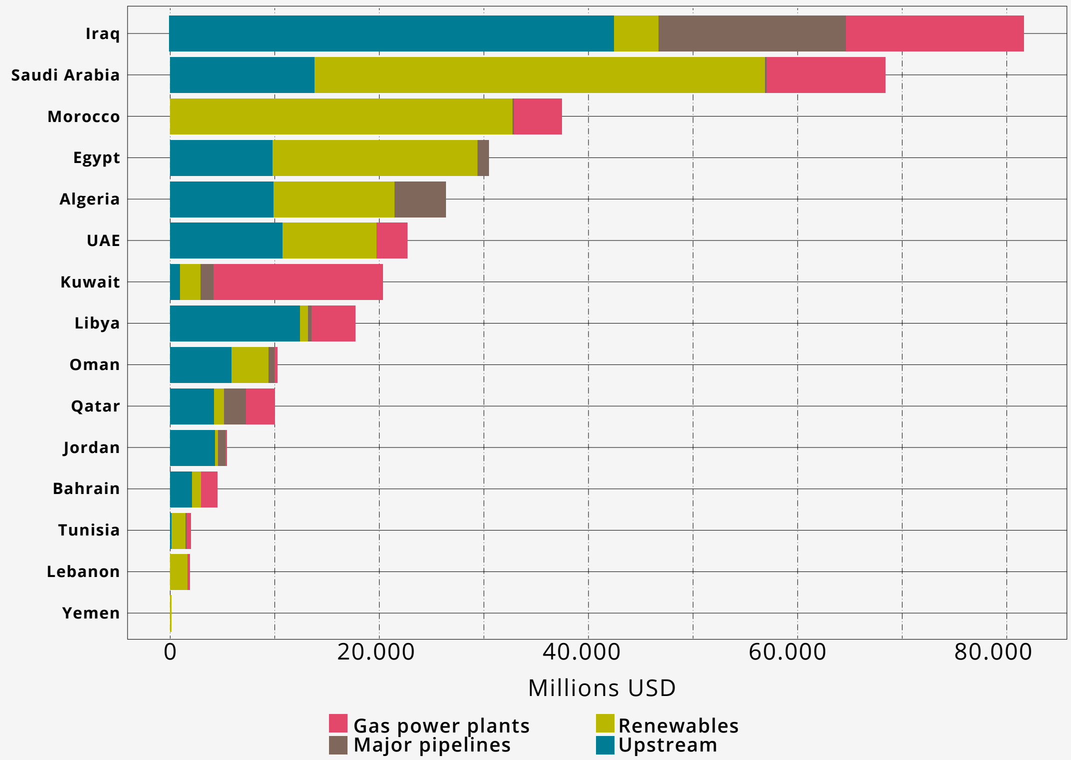
Project type	Projected investment (USD)
Upstream oil and gas	116 billion
Major pipelines	39 billion
Gas power plants	68 billion
Renewables	136 billion

Source: Empower, with data from APICORP.

Figure 14 presents a breakdown of this data by country. It should be kept in mind that these figures are projections and that real investment totals will likely be closer to projected totals in lower-risk locations for international capital (such as Qatar, UAE, and Saudi Arabia), and will likely fall well short of projections in more unstable investment environments (such as Iraq and Libya). In the latter, investors may pull out for reasons such as *force majeure* provisions, abrupt regulatory shifts, or insufficient access to debt financing; furthermore, government tenders may simply never attract acceptable bids due to poor investment conditions.

[59] These figures exclude Iran.

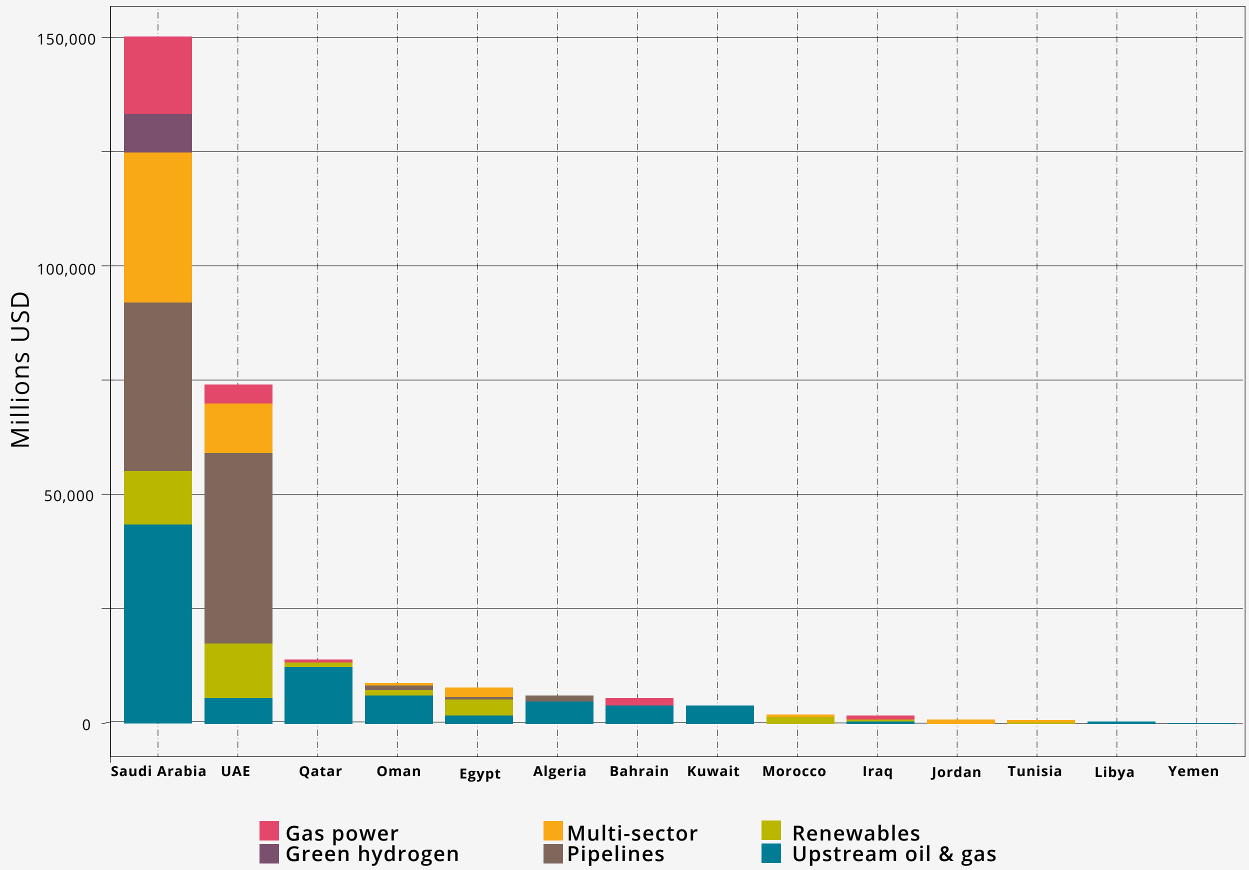
Figure 14. Projected investment in select MENA project types (2022-26)



Source: Empower, with data from APICORP.

The data in Figure 14 does not encompass all financial flows *per se*, as it excludes any refinancing and acquisitions (both equity and debt) that take may place during this period. For reference, Figure 15 presents financial flows in the same sub-sectors observed during the 5-year period from 2019-23. These flows include all kinds of debt, refinancing, and acquisitions, but exclude most major equity investments, such as ongoing capital expenditures from oil majors. While the numbers reflect incomplete data, a comparative breakdown of the financial flows by country indicates which countries have best been able to attract international debt — both project and corporate (balance-sheet) bonds, loans, and facilities — as well as private-sector acquisition deals and refinancing.

Figure 15. Select MENA financial flows by country and sector (2019-23)



Source: Empower, with data from IJGlobal.

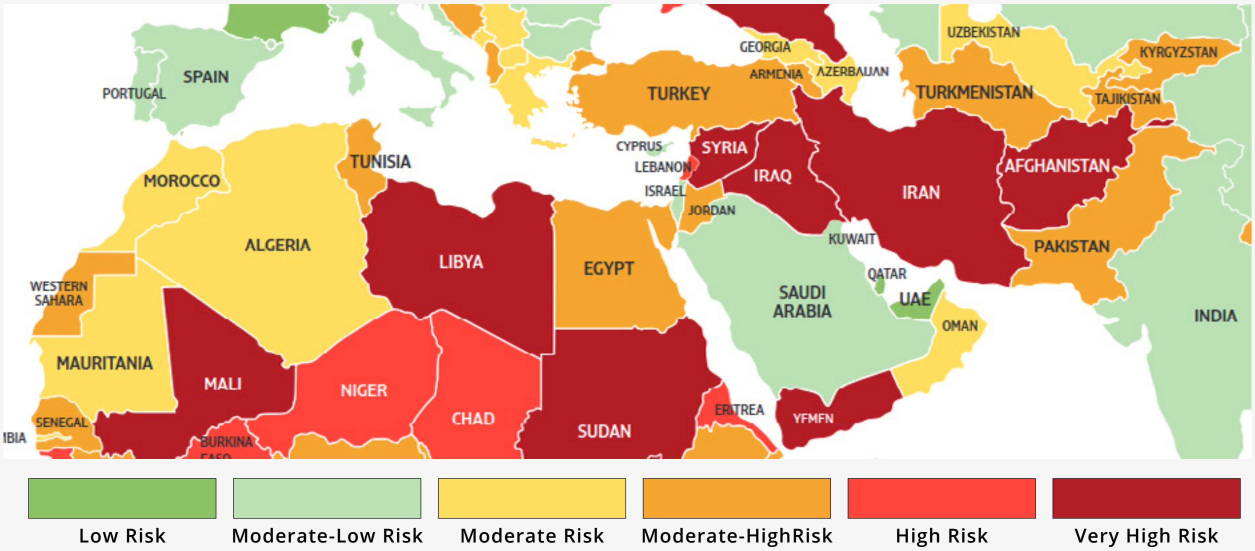
Unsurprisingly, the countries with the lowest perceived investment risk (see Map 3) have generally seen far more energy-related financial activity. This largely mirrors overall levels of foreign direct investment (FDI), where UAE and Saudi Arabia far outpaced the rest of MENA (excluding Israel) in 2021, while countries with ongoing political conflicts, such as Iraq, Libya, and Yemen, saw zero or negative FDI despite major ongoing energy production.[60] Iraq and Libya, in particular, have seen major new international capital commitments since 2021, though it remains to be seen how many deals are executed.

Interestingly, some countries with very low levels of financial activity (Figure 15) have very high levels of projected investment (Figure 14). The data collected for Iraq in particular reflects a drastic difference between projected energy investment and recent financial flows. This reflects both statistical discrepancies and the country's current investment landscape. On the one hand, ongoing capital expenditures in the country by oil companies, for example, are not generally reflected in the financial transaction data, leading the country to be underrepresented in financial flows, as it has not attracted large amounts of international debt since re-opening to foreign oil companies in 2009. On the other hand, the discrepancy reflects a real transition, at least on pa-

[60] World Bank, "Foreign direct investment, net inflows (BoP, current US$) - Middle East & North Africa," data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?locations=ZQ-SA-IQ.

per, as there are major new spending plans in upstream and gas power plants especially, giving industry players new optimism that Iraq's ability to attract FDI may be improving.[61]

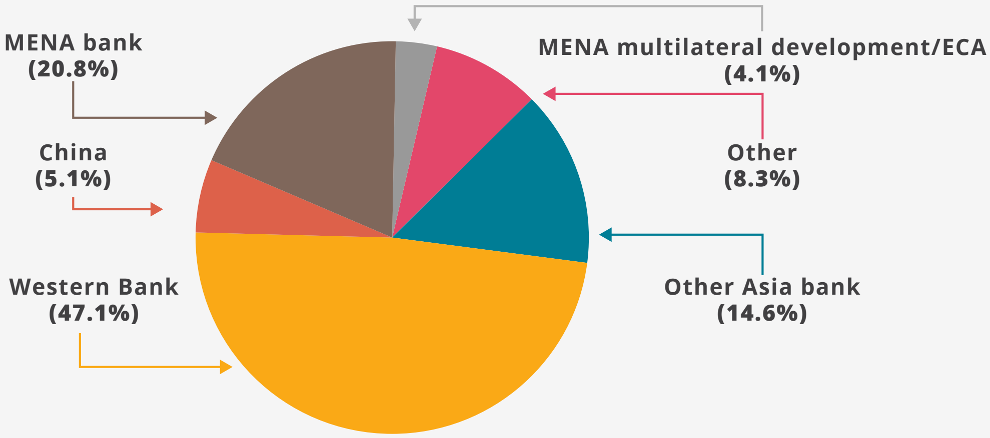
Map 3. Atradius Country Risk Map, Quarter2 2024



Source: Source: Atradius, 2024.

An analysis of debt flows to the four energy sub-sectors in MENA considered for this report indicates that slightly less than half (47.4%) of loans made or committed from 2019-23 came from Western banks (European or North American), nearly all private, and 21% from banks in the MENA region, mostly controlled to some degree by government entities, in many cases sovereign wealth funds (SWFs). Other Asian countries, led by Japan, accounted for 14.7% of all loans and Chinese financial institutions, overwhelmingly State-controlled, made up another 5.1%. Multilateral and development financial institutions from various regions, as well as export credit agencies (ECAs), played a small but strategic role as lenders.

Figure 16. MENA energy sector lenders (2019-23)

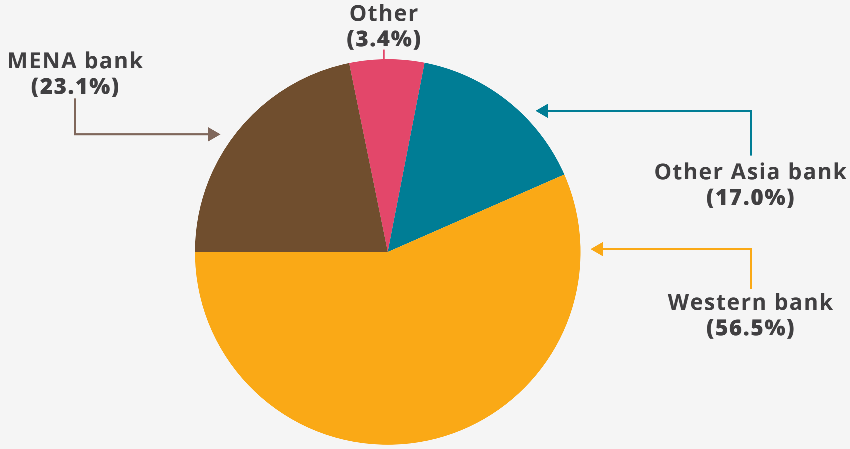


Source: Empower, with data from IJGlobal.

[61] Simon Martelli, "New Government Raises Hopes for Iraq's Upstream," *Energy Intelligence*, 10 November 2022, www.energyintel.com/00000184-5e75-d328-a5fd-5ef57d7e0000.

Bonds comprised a smaller but very important segment of the total debt committed to energy projects and companies in the region. While research to identify bondholders was not conducted during Stage 1, data on bond underwriters shows an even larger share (56.55%) attributable to Western banks and smaller shares to Chinese financial institutions and other ECAs, development banks, and multilateral institutions.

Figure 17. MENA energy sector bond underwriters (2019-23)



Source: Empower, with data from IJGlobal.

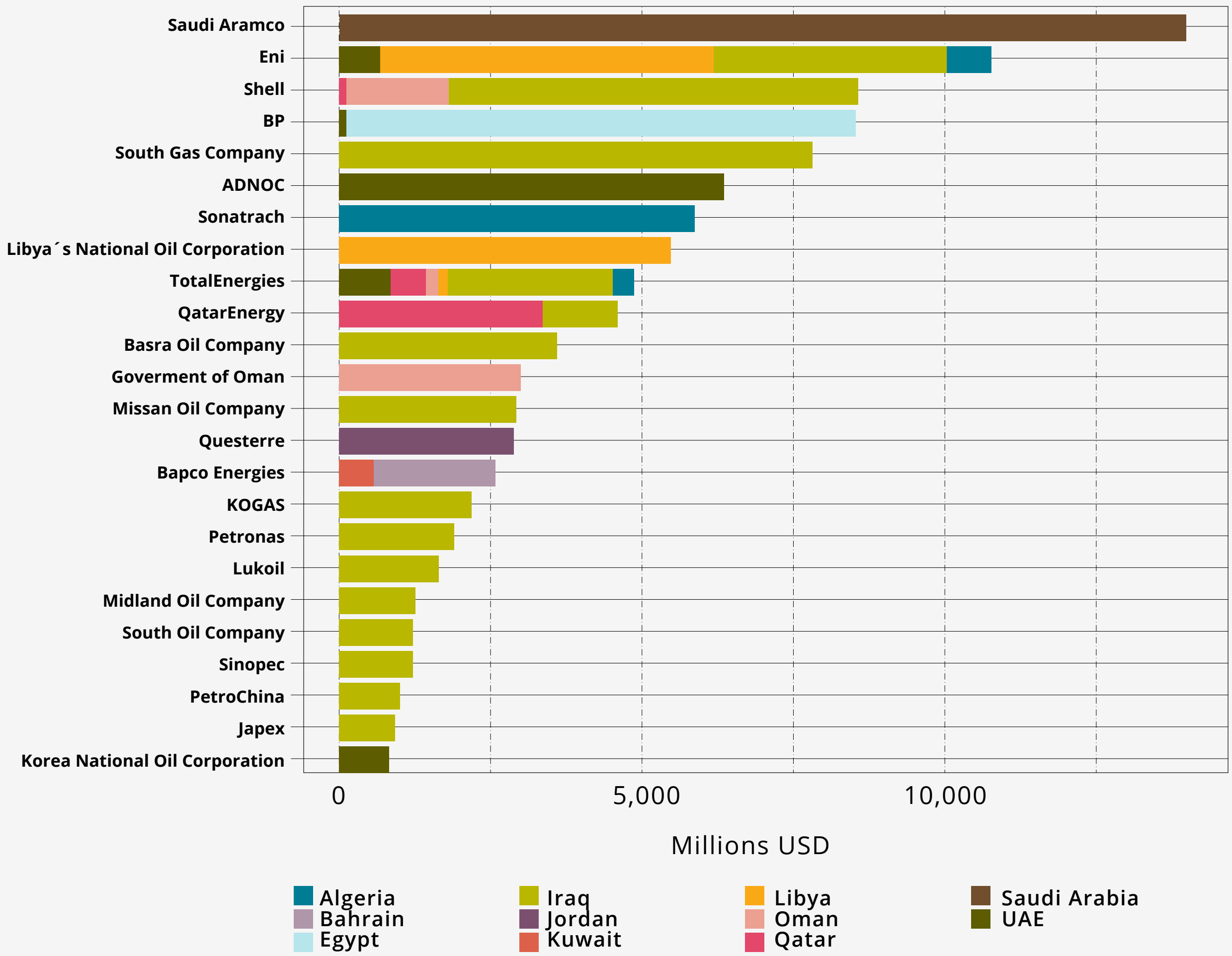
The following sections break down the compiled financial data by energy project type and country, accompanied by analysis of key companies and notable tendencies. The objective is to map out the relative importance of certain financial actors and types of financial actors, with an eye to opportunities for climate-conscious intervention in the region.

4.1 Upstream

Projected investment data for 2022-26 indicates that 50.1% of upstream oil and gas investment will come from national oil companies (NOCs), led by Saudi Aramco, the Abu Dhabi National Oil Company (ADNOC), Iraq's various State-owned companies, Algeria's Sonatrach, and Libya's National Oil Corporation. The most important international oil companies (IOCs) in the region are European, namely Italy's Eni, Shell and BP of the United Kingdom, and TotalEnergies of France.

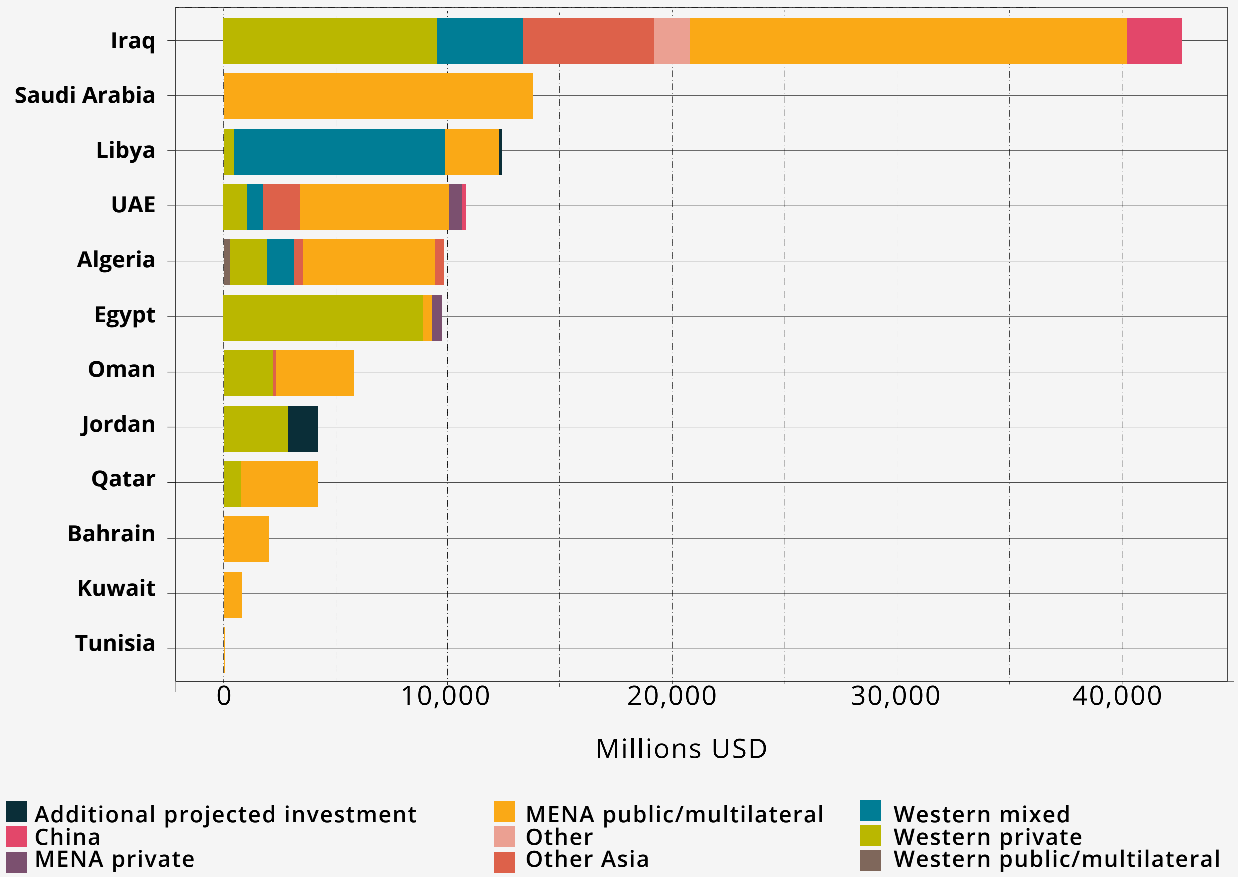
Iraq is an outlier, with more than twice as much projected upstream investment as even Saudi Arabia (see Figure 18), but these projections will probably not be met, given Iraq's unstable political environment. Furthermore, the two largest upstream projects planned in Iraq, accounting for over half of the figures reflected below, are centered around flared gas utilization, which captures unused gas that escapes from oil production fields and is burned in a highly polluting and wasteful fashion. Thus, while flared gas utilization does amount to upstream production, it is different than new drilling and is even presented as an environmental initiative by governments and industry actors.

Figure 18. Projected upstream oil and gas investment in MENA (2022-26)



Source: Empower, with data from APICORP.

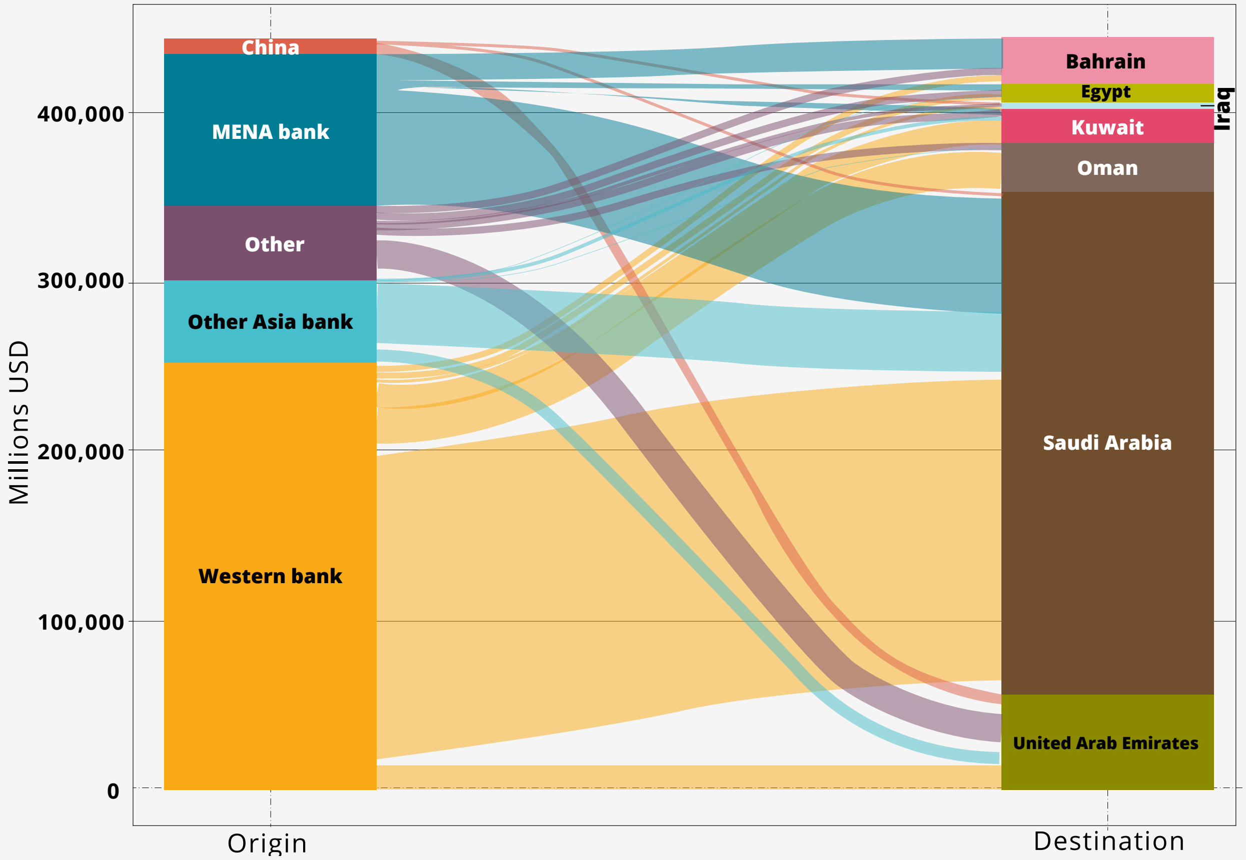
Figure 19. Projected upstream oil and gas investment in MENA (2022-26)



Source: Empower, with data from APICORP.

Meanwhile, the majority of loans and bond underwriting for upstream activity comes from Western banks, with significant participation from MENA banks and Japanese banks and financial institutions. The primary recipient of this upstream debt was Saudi Arabia, followed by UAE and Qatar, as well as other GCC countries to a much smaller extent.

Figure 20. MENA upstream lending (2019-23)



Source: Empower, with data from IJGlobal.

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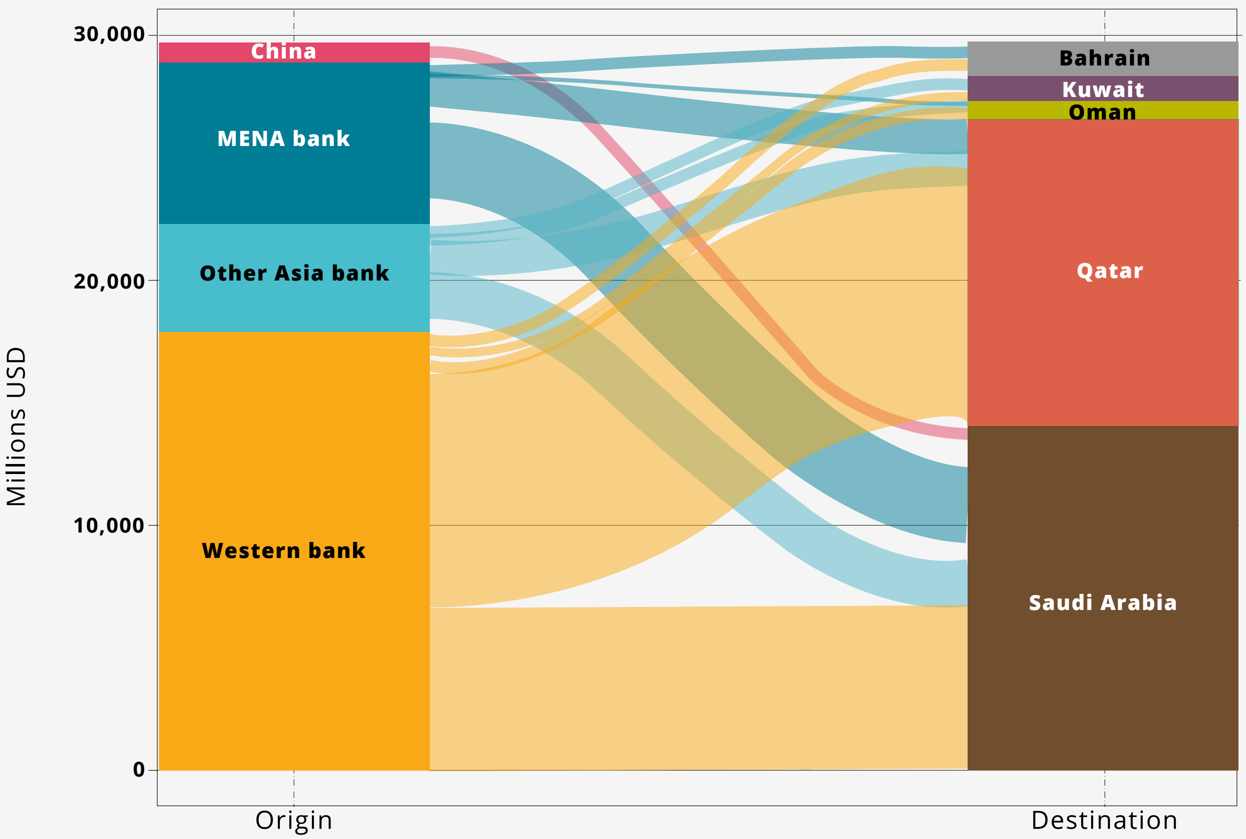
Figure 21. MENA upstream bond underwriting (2019-23)



Source: Empower, with data from IJGlobal.

In the Gulf, despite Saudi Arabia's ongoing oil production cuts aimed at bolstering prices, investment levels remain high. Saudi Aramco, the world's second-largest company by revenue in 2022,[62] plans to increase upstream capital expenditures through 2025[63] and UAE's ADNOC has made clear its plans to continue to invest in upstream capacity.[64] Qatar continues to invest in gas field development as it ramps up LNG export capacity to Europe.[65]

As it concerns upstream debt financing, Gulf NOCs show much larger inflows from abroad than do North African NOCs. While Saudi Aramco is not heavily leveraged by any means, its 76 billion USD in total debt, as of June 2023, dwarfs all other NOC debt in the region, especially in North

[62] "Fortune Global 500," Fortune, fortune.com/ranking/global500.

[63] Nishant Ugal, "Saudi Aramco's colossal spending plans to be led by upstream projects," *Upstream Online*, 14 March 2023, www.upstreamonline.com/production/saudi-aramco-s-colossal-spending-plans-to-be-led-byupstream-projects/2-1-1418501.

[64] Nichant Ugal, "Adnoc to spend $150 billion in five years, advances 5 million bpd production target to 2027," *Upstream Online*, 29 November 2022, www.upstreamonline.com/production/adnoc-to-spend-150-billion-infive-years-advances-5-million-bpd-production-target-to-2027/2-1-1362534.

[65] Álvaro Escalonilla, "Algeria, Qatar and Egypt: the three Arab countries profiting from Europe's energy crisis," *Atalyar*, 4 January 2023, www.atalayar.com/en/articulo/economy-and-business/algeria-qatar-and-egyptthree-arab-countries-profiting-europes-energy-crisis/20230104112729159631.html.

Africa, where most foreign financing comes directly from IOCs. In June 2023, a United Nations working group sent letters to several major creditors of Saudi Aramco, warning that its uniquely large contribution to climate change — the company is responsible for 4.33% of all global CO2 and methane emissions from fossil fuels and cement from 1965-2018 — means their involvement in the financing of Saudi Aramco's activities could be in violation of international human rights law and standards.[66] Even after production cuts, the Kingdom still produces about 10% of the world's crude oil on a daily basis.

China has begun to play a limited role in upstream equity investment in the region, most notably in Iraq, which was its third-largest oil supplier as of early 2023, after Russia and Saudi Arabia. More than half of Iraq's oil production now comes from fields where Chinese companies are operators or non-operating partners, and Western companies have pulled back, though they still hold bigger equity stakes in upstream projects, according to data compiled for this scoping.[67] However, Chinese companies have become dominant as contractors, a space in which, in 2022, they won 87% of all oil, gas, and power contracts in Iraq.[68] Iraq was the top recipient worldwide, by far, of Belt and Road Initiative (BRI) energy engagement in 2021, receiving about 10 billion USD in energy contracts out of a global total of 22.5 billion USD. The next-most important MENA partner, Kuwait, was responsible for just 780 million USD in BRI energy contracts.[69] In GCC countries as a whole, no Chinese company figured among the Top 15 contractors on oil, gas, and petrochemical megaprojects under construction in December 2022,[70] though they are competing for and winning some major contracts both in the Gulf and North Africa.

Meanwhile, Western oil majors may be pulling back from upstream investment in Iraq — though not downstream investment — "due to the lack of a clear project investment plan," an Iraqi official was quoted as saying in September 2023, adding, "I believe that we are going in the direction of losing big oil companies such as British Petroleum and Exxon Mobil."[71] One notable exception to this potential trend is the July 2023 signing of a 10 billion USD deal led by TotalEnergies, alongside QatarEnergy and the State-owned Basra Oil Company, for a package of projects including flared gas recovery at oil fields.

In North Africa, though upstream activity is significantly less than in the Gulf states and Iraq, Europe's newly urgent demand for gas in light of Russia's pipeline supply restriction to the continent has led to increased upstream exploration and investment activity, even as Russia

[66] Client Earth, "UN warns Aramco and its financiers over their role in driving climate-fueled human rights violations," 25 August 2023, www.clientearth.org/latest/press-office/press/un-warns-aramco-and-itsfinanciers-over-their-role-in-driving-climate-fuelled-human-rights-violations.

[67] John Calabrese, "Beijing to Baghdad: China's growing role in Iraq's energy sector," Middle East Institute, 7 June 2023, www.mei.edu/publications/beijing-baghdad-chinas-growing-role-iraqs-energy-sector.

[68] Wil Crisp, "Chinese win 87 per cent of Iraq energy contracts," *MEED*, 7 November 2022, www.meed.com/chinese-win-87-per-cent-of-iraq-energy-contracts.

[69] Christoph Nedopil Wang, "Brief: China Belt and Road Initiative (BRI) Investment Report 2021," Green Finance and Development Center, 2 February 2022, greenfdc.org/brief-china-belt-and-road-initiative-bri-investmentreport-2021.

[70] MEED, "GCC Oil and Gas Megaprojects," presentation, 12 December 2022.

[71] "Oil giants may shun Iraq for lack of investment plan: deputy," *Zawya*, 7 September 2023, www.zawya.com/en/projects/oil-and-gas/oil-giants-may-shun-iraq-for-lack-of-investment-plan-deputya1bihw9h.

has ramped up LNG imports to Europe.[72] Some of this renewed exploration in North Africa is not fully reflected in the financial flows captured for this report; notable recent announcements include BP's August 2023 commitment of 3.5 billion USD to hydrocarbon research, exploration, and development over the next three years, and U.S. oil majors Exxon and Chevron nearing a deal with Algeria's Sonatrach — the largest company in Africa — to drill conventional and shale gas in Algeria.[73] Also in August 2023, BP, Eni, and Sonatrach resumed activity in existing oil and gas blocks in Libya after lifting *force majeure* provisions.[74] Eni alone committed 8 billion USD to Libyan offshore gas development in January 2023 in an apparent joint venture with the National Oil Corporation.[75] Section 6, "Upstream exploration in North Africa," contains a more detailed exploration of the subject.

4.2 Pipelines

Of the major new oil and gas pipeline projects considered in Stage 1 of this research, 94% of projected equity stakes are controlled by State-owned enterprises, primarily NOCs. However, some of the largest and most ambitious are unlikely to be built any time soon. The Trans-Saharan Pipeline, for example, which would run from Nigeria across Niger to Algeria for gas supply to Europe, at a staggering cost of 13 billion USD, will not be able to proceed during the ongoing conflict in Niger.

One notable exception to local state control of new pipeline projects is the Egypt-Cyprus Gas Pipeline project, owned by Shell, Chevron, and Israel conglomerate Delek Group, which would run from Cyprus's Aphrodite offshore gas field to the Damietta Segas LNG export terminal. The terminal was restarted in 2021 after having stopped operations in 2012 and now primarily exports gas to Europe.[76]

There is, however, an important trend in pipeline-specific private capital flows to the MENA region, namely an ongoing flurry of acquisition deals for major pipelines and pipeline systems, resulting in a considerable degree of privatization led by Western private equity and asset managers. These deals have attracted 44.7 billion USD in total equity investment and debt, plus billions more in refinancing, since 2019, in deals for pipeline assets primarily in UAE and Saudi Arabia, as well as Egypt, Algeria, and Tunisia. Section 5, "Upstream debt financing and pipeline acquisitions," explores this trend in more detail.

[72] Alice Hancock and Shotaro Tani, "EU imports record volumes of liquefied natural gas from Russia," *Financial Times*, 29 August 2023, www.ft.com/content/1e70ff72-52d8-46b6-a8f4-fcc86fb88a6d?segmentId=b0d7e653-3467-12ab-c0f0-77e4424cdb4c.

[73] Matthew Dalton, "Exxon, Chevron Near Deals to Drill in Gas-Rich Algeria," *Wall Street Journal*, 2 June 2023, www.wsj.com/articles/exxon-chevron-near-deals-to-drill-in-gas-rich-algeria-8aeed887?mod=hp_lead_pos5.

[74] Sami Zaptia, "Eni, BP and Sonatrach lift force majeure, resume contractual obligations in their oil and gas blocks," *Libya Herald*, 5 August 2023, libyaherald.com/2023/08/eni-bp-and-sonatrach-lift-force-majeure-resume-contractual-obligations-in-their-oil-and-gas-blocks.

[75] Nadja Skopljak, "Eni inks agreement for $8 billion gas development project off Libya," *Offshore Energy*, 30 January 2023, www.offshore-energy.biz/eni-inks-agreement-for-8-billion-gas-development-project-off-libya.

[76] "Eni: Egypt's Damietta terminal ships 500th LNG cargo," *LNG Prime*, 1 February 2023, lngprime.com/africa/eni-egypts-damietta-terminal-ships-500th-lng-cargo/72488.

4.3 Power generation

As of 2021, approximately 70% of electricity generation across MENA came from gas-fired power plants, while 24% was derived from oil, the latter primarily accounted for by Saudi Arabia.[77] Non-hydro renewable energy sources accounted for 4% of generation, though renewable energy capacity has since grown approximately 50% annually in the region.[78] As of 2021, only UAE (5%), Jordan (20%), Lebanon (7%), Egypt (11%), and Morocco (40%) generated a significant portion of energy from renewable sources, though Saudi Arabia is currently making large investments as part of its Vision 2030 program, aiming for 50% renewable energy production by 2030. UAE has a goal of 45% by 2030, while most other countries, except for the outlier of Morocco, have slightly less ambitious targets. Morocco is the only country where coal is a major energy source, accounting for 55% of generation in 2021, though that number is quickly dropping.[79]

While gas power is projected to stay relatively steady through 2024, with investments of approximate 68 billion USD between 2022-26, renewable investment will account for twice that, or approximately 136 billion USD — 100 billion USD of which is slated for development in North Africa.[80] Most of the green investment in MENA is being directed toward solar (78%) and wind (20%), though Global Energy Monitor estimates that 60% of solar and wind capacity in MENA is slated to power green hydrogen production, which is a questionably green technology, in that it would primarily power fertilizer, steel, and cement production for export, rather than replacing gas power plants connected to the electric grid.[81]

Looking a bit further into the future, APICORP estimates a pipeline of 257 billion USD in renewable energy projects though 2030. Of this total, 59% corresponds to North Africa, 38% to GCC countries, and just 4% to the Levant (including Iraq).[82] Of these projects, solar leads with a 50% share, followed by hydrogen (21%), nuclear (14%) — which Empower did not include in financial research —, and wind (10%).[83] According to the U.N. Economic and Social Commission for Western Asia, the additional financing required for MENA Arab countries to meet their Paris Agreement climate commitments sat at about 570 billion USD as of 2022, of which Egypt, Iraq, and Morocco alone account for 425 billion USD. Wealthier MENA countries, such as Saudi Arabia and UAE, will be less dependent on foreign development financing to reach their goals.[84]

[77] Arab Petroleum Investments Corporation, "MENA Energy Investment Outlook 2022-2026," June 2022, www.apicorp.org/publication/mena-energy-investment-outlook-2022-2026.

[78] Global Energy Monitor, "MENA grows renewables by half but clings to risky hydrogen and gas," September 2023, globalenergymonitor.org/wp-content/uploads/2023/08/MENA-grows-renewables-by-half-GEM.pdf.

[79] Arab Petroleum Investments Corporation, "MENA Energy Investment Outlook 2022-2026," June 2022, www.apicorp.org/publication/mena-energy-investment-outlook-2022-2026.

[80] Data compiled by Empower, primarily using data from Arab Petroleum Investments Corporation. "MENA Energy Investment Outlook 2022-2026," June 2022, www.apicorp.org/publication/mena-energy-investmentoutlook-2022-2026.

[81] Global Energy Monitor, "MENA grows renewables by half but clings to risky hydrogen and gas," September 2023, globalenergymonitor.org/wp-content/uploads/2023/08/MENA-grows-renewables-by-half-GEM.pdf.

[82] Arab Petroleum Investments Corporation, "MENA's Sustainability Journey in Light of COP27," November 2022.

[83] Arab Petroleum Investments Corporation, "MENA's Sustainability Journey in Light of COP27," November 2022.

[84] U.N. Economic and Social Commission for Western Asia, "Climate finance needs and flows in the Arab region," www.unescwa.org/sites/default/files/event/materials/Policy%20Brief-Climate-finance-needs-flows2022.pdf.

It should be noted that electricity generation with gas is an inefficient method for most MENA countries, none of which, except for Qatar and Oman, have a natural gas surplus exceeding domestic consumption needs.[85] UAE and Kuwait have to import gas, while Saudi Arabia has thus far made up the difference with oil-fired power plants. GCC countries subsidize about 40% of electricity production — mostly fossil fuel-based — and the opportunity cost of potential oil and gas exports having to be used instead for domestic production would appear to incentivize MENA countries to achieve their targets for renewable energy development.

4.3.1 Gas power plants

Of 68 billion USD in planned MENA fossil-fuel power development between 2022-26 (mostly gas, but including a relatively small amount of oil-fired power plants), only 27.5 billion USD has already been awarded to project developers. Iraq leads the way with 17 billion USD in planned investment, though the majority of investments are not finalized, as Western firms GE and Siemens vie for multi-billion USD contracts related to a delayed slate of projects that would account for 12.7 billion USD in new gas plants over the next several years. Meanwhile, Kuwait accounts for 15.8 billion USD in gas power investment, much of which is related to the phased expansion of Al Zour North Independent Water and Power Project, which currently provides 10% of the country's power generation and 20% of its desalination capacity. Saudi Arabia has 11.3 billion USD slated for gas power investment through 2026.

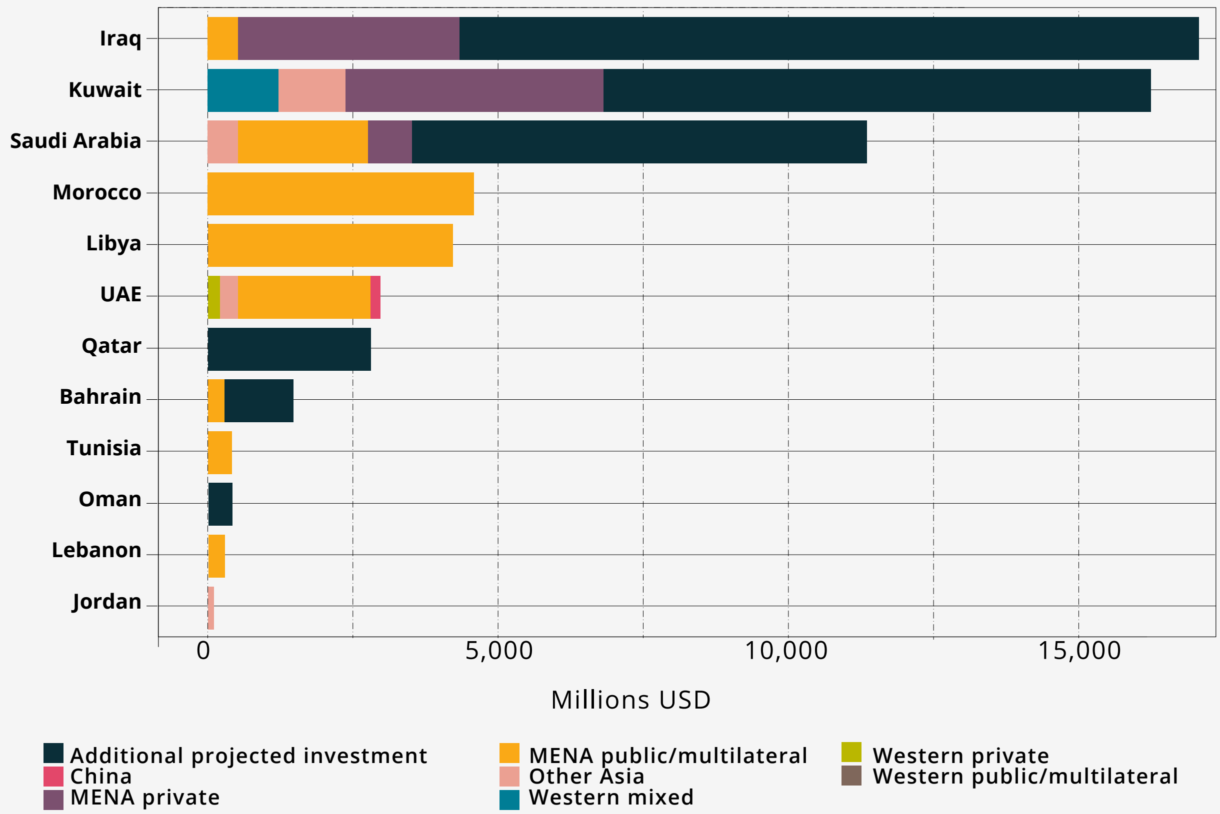
North Africa, which is heavily dependent on gas-fired power, has much less planned investment in the pipeline, just 9.2 billion USD, half of which is accounted for by the Jorf Lasfar CCGT power station being developed by the Moroccan government. Notably, Algeria and Egypt have not planned any major investment in new gas power plants.

In the Gulf, most planned gas power investment is arranged through public-private joint ventures, in which SWFs play an important role. However, most SWFs have strategic plans to funnel investment toward renewables. For example, ACWA Power, which is 44%-owned by Saudi Arabia's Public Investment Fund, operates many gas-fired power plants across MENA, but aims to increase renewables to 50% of its portfolio by 2030, meaning that most new money will not go toward gas power. Still, ACWA Power is only actively divesting from oil and coal-fired power plants, not gas power.[86]

[85] Gina Eskandar, "Missed opportunities: The billions sacrificed annually to generate electricity in the GCC," *Middle East Institute*, 27 March 2023, www.mei.edu/publications/missed-opportunities-billions-sacrificedannually-generate-electricity-gcc.

[86] "Saudi CSP giant ACWA Power now shelving coal power," *Solar Paces*, 30 June 2023, www.solarpaces.org/saudi-csp-giant-acwa-power-now-shelving-coal-power.

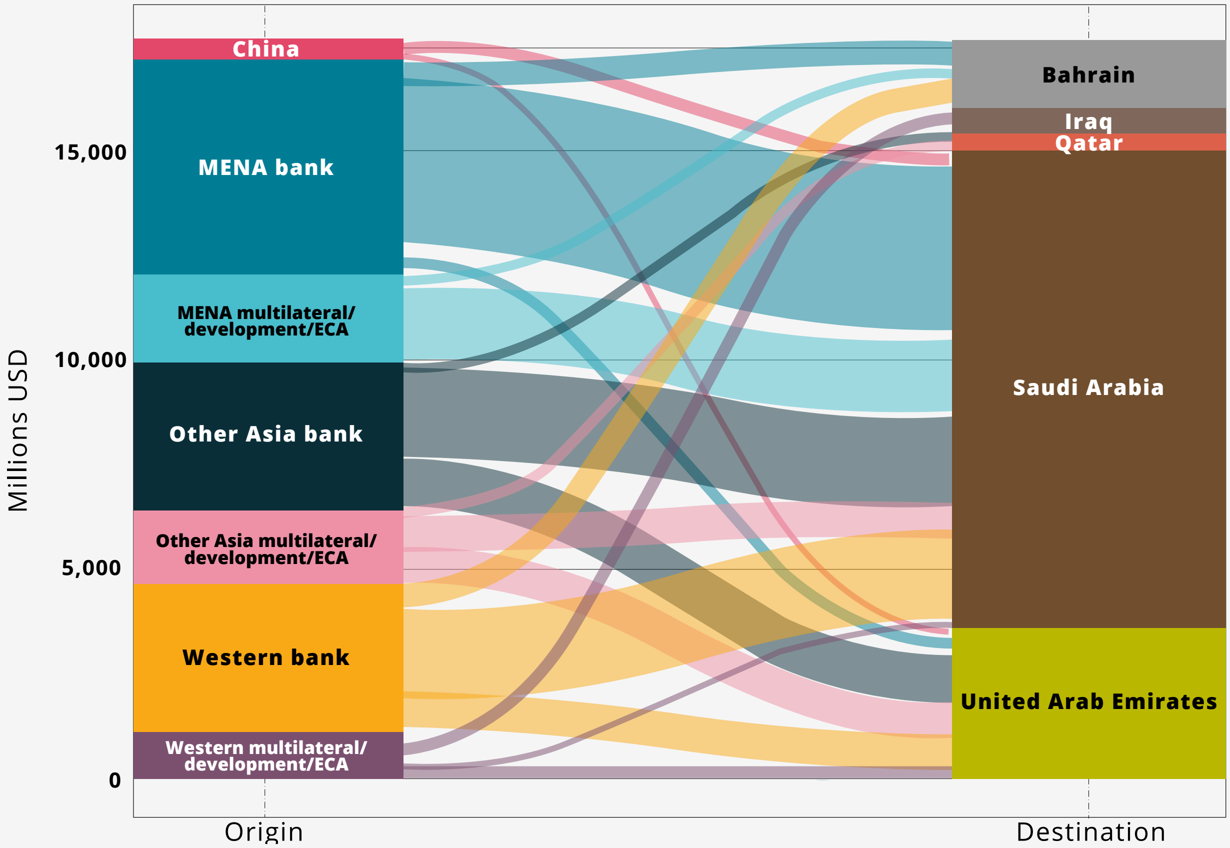
Figure 22. Projected gas power investment in MENA by country (2022-26)



Source: Empower, with data from APICORP.

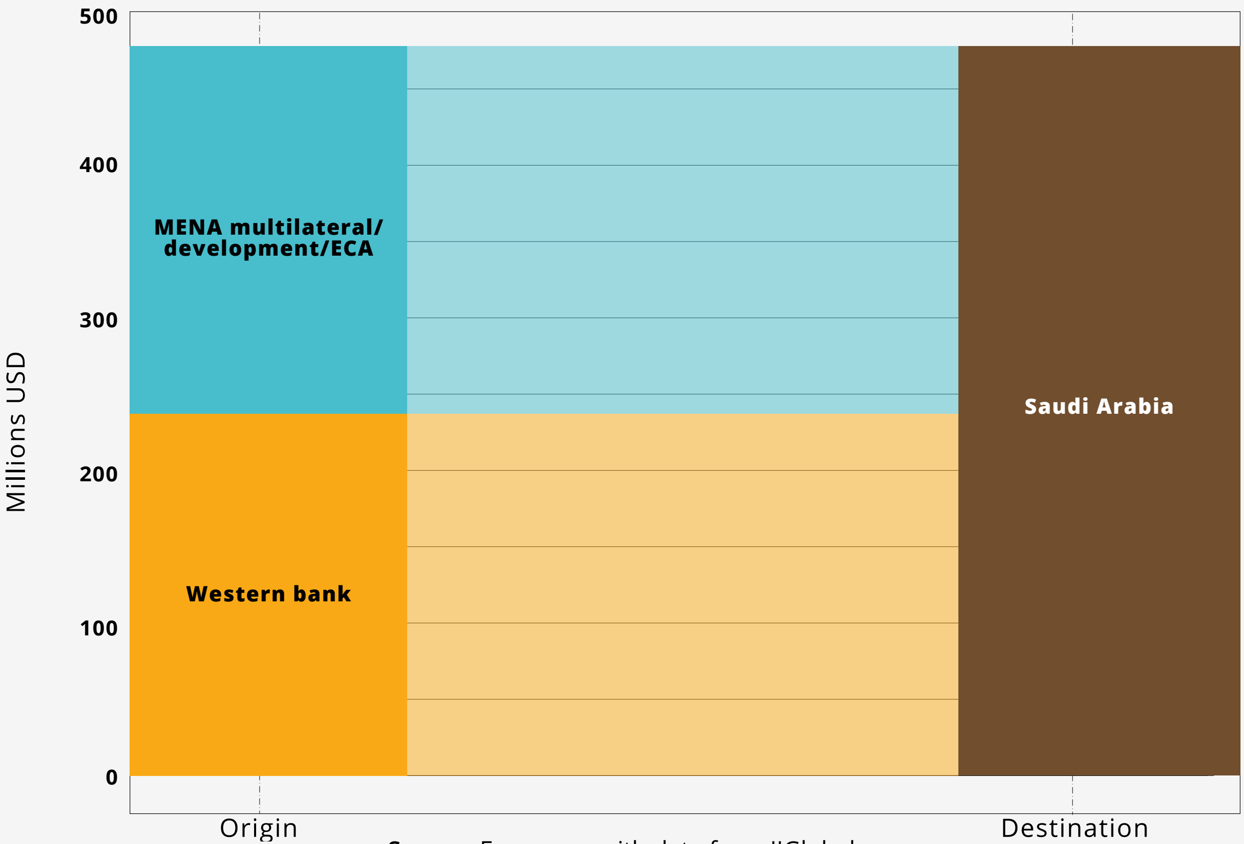
Most of the lending for gas power projects over the last five years (2019-23) has come from direct loans, as opposed to bonds, with MENA banks taking the top spot, though banks and other financial institutions from Europe, the U.S., and Japan, in particular, play an important role. China does not provide an important amount of debt to MENA gas power projects. Many MENA banks, it should be noted, are owned in full or in part by those countries' SWFs, which continue to provide credit to upstream and gas power plants despite commitments to recycle fossil fuel money into renewable energy.

Figure 23. MENA gas power lending (2019-23)



Source: Empower, with data from IJGlobal.

Figure 24. MENA gas power bond underwriting (2019-23)



Source: Empower, with data from IJGlobal.

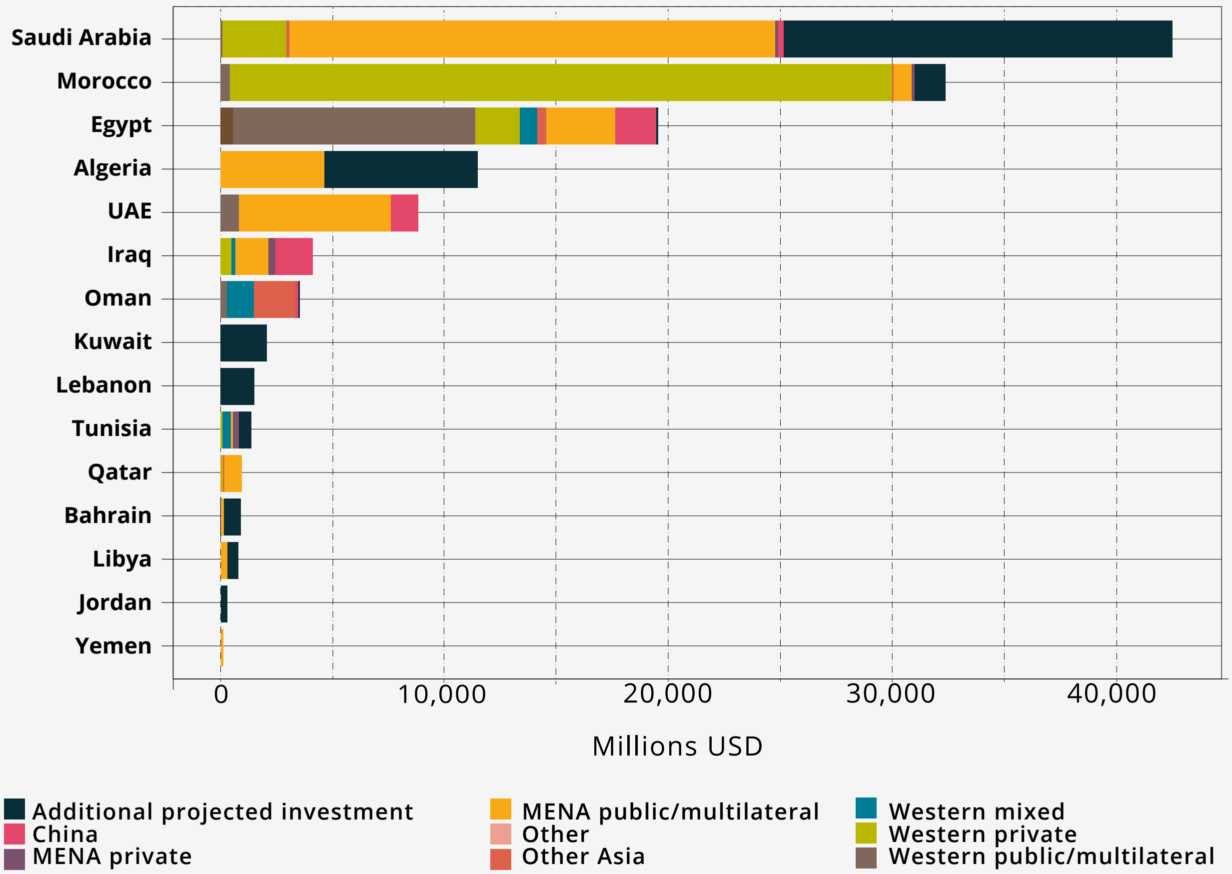
4.3.2 Renewable energy

Investments in renewable energy are rapidly expanding across MENA. In Gulf countries, this effort is being led by SWFs as part of national strategies to divert oil and gas revenues to renewables. Saudi Arabia, for example, wants to develop 70% of its targeted renewable energy by 2030 though its Public Investment Fund (PIF), in partnership with Saudi Aramco and PIF-controlled ACWA Power, and the remaining 30% through competitive tenders launched by the Ministry of Energy.[87] Key players across MENA include Masdar (owned by UAE sovereign wealth fund Mubadala) and two portfolio companies of Saudi Arabia's PIF: ACWA Power (44%-owned) and Badeel (fully-owned). However, SWFs will be working with a wide array of investment partners and renewable energy has attracted a more diverse mix of international capital than have fossil fuel investments.

In North Africa, where the biggest share of MENA's green investments are planned, a comparatively larger portion of planned equity investment will come from private companies, though Masdar and ACWA Power play a role, as do European State-owned and mixed companies, such as France's EDF and Engie, Italy's Enel, and Norway's Scatec.

[87] Dania Saadi, "Saudi's ACWA to develop $30 billion of renewable projects by 2030 with Aramco, PIF," *S&P Global*, 18 October 2021, www.spglobal.com/commodityinsights/en/market-insights/latest-news/electricpower/101821-saudis-acwa-to-develop-30-billion-of-renewable-projects-by-2030-with-aramco-pif.

Figure 25. Projected renewables investment in MENA by country (2022-26)



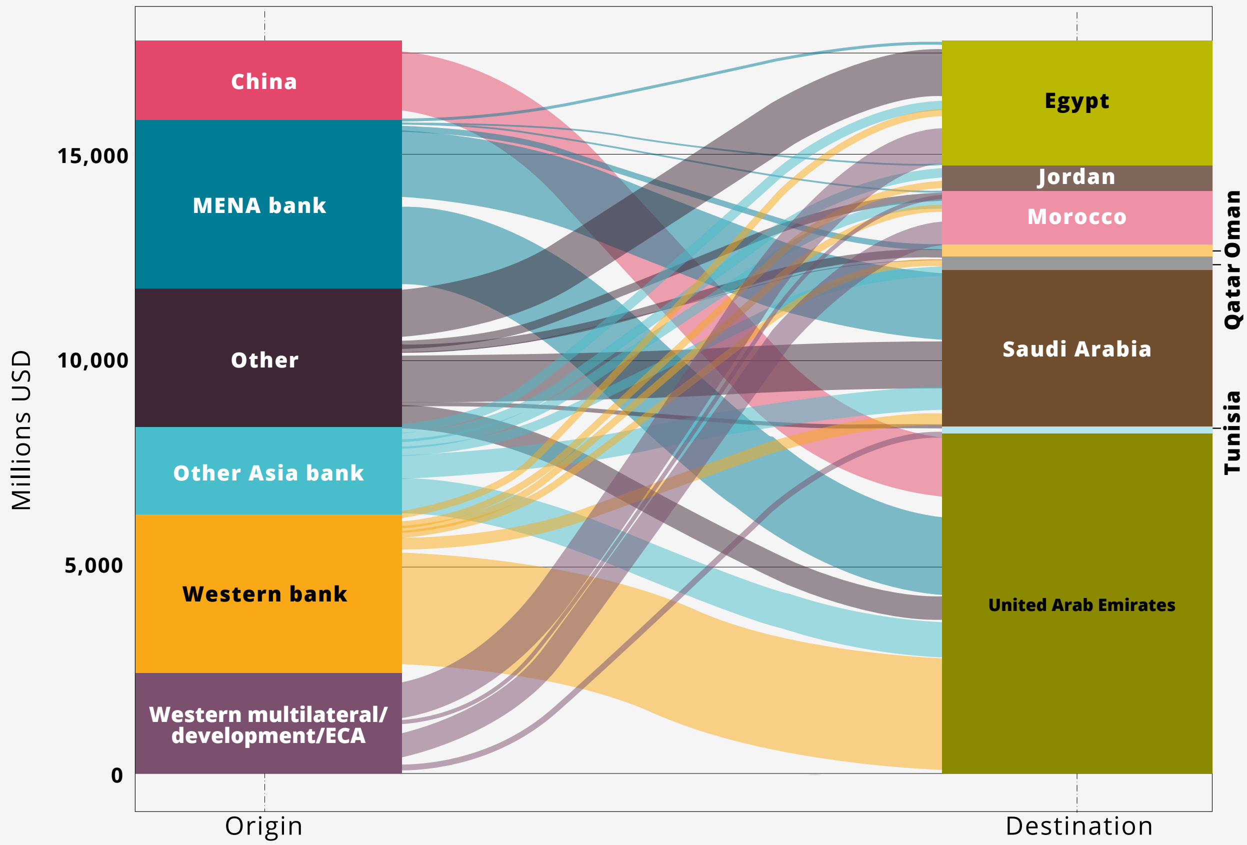
Source: Empower, with APICORP data.

Most lending to finance renewable energy projects in North Africa came from multilateral and development financial institutions and ECAs over the last five years (2019-23), primarily from the U.S. and Europe but also from Asia and Africa, though not from MENA or China.

As in other sectors, Saudi Arabia and UAE attracted the lion's share of debt flows to renewable projects, primarily from Western and MENA banks and financial institutions, though China has also made important loans to renewable projects in UAE. While not reflected in recent financial flows, China has big plans in Iraq's renewable sector, as it does in oil and gas, with some 40% of the country's 4.1 billion USD green investments coming from Power China. Chinese economies of scale in solar technology have "made China the only source for most solar technologies" in Iraq, according to one Iraq solar engineer.[88]

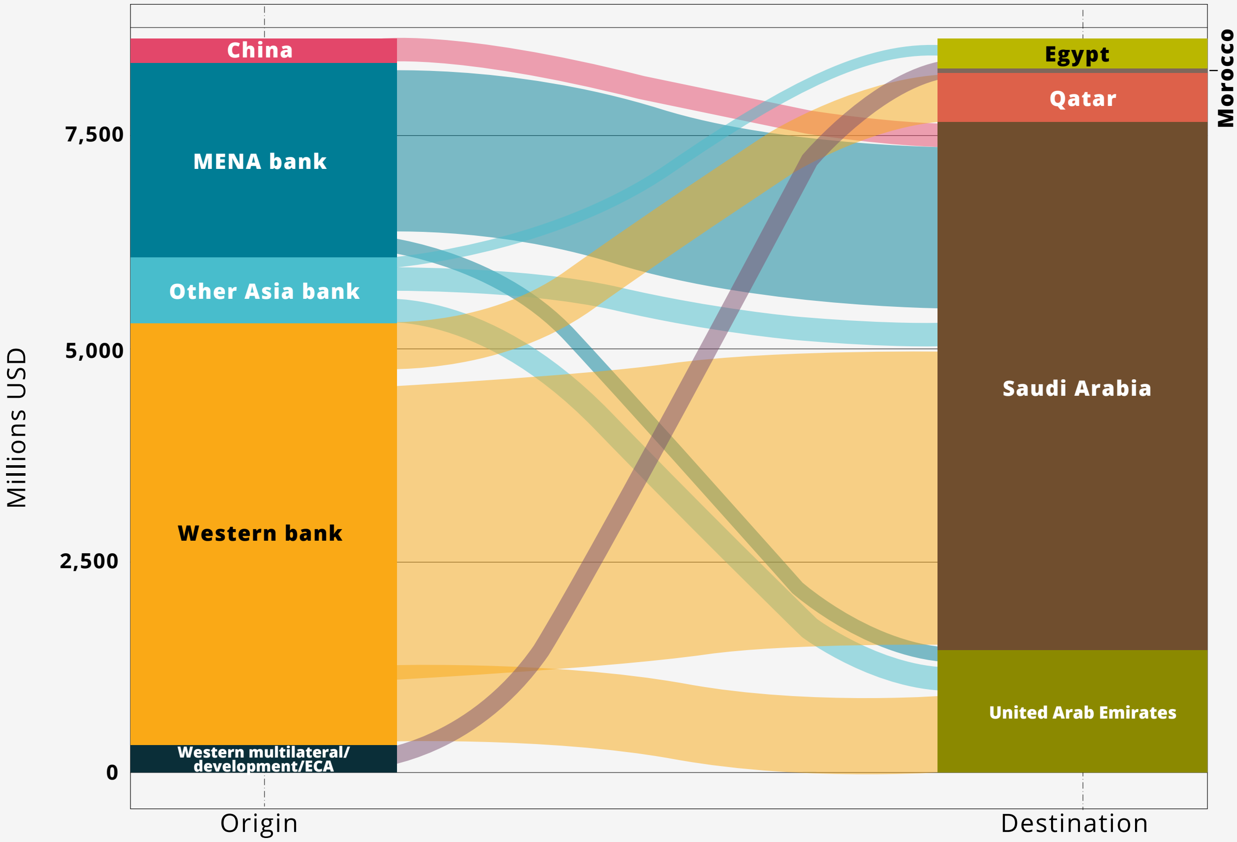
[88] Sardar Aziz, "How China dominated Iraq's solar energy market," *Al-Monitor*, 26 June 2023, www.almonitor.com/originals/2023/06/how-china-dominated-iraqs-solar-energy-market.

Figure 26. MENA renewables lending (2019-23)



Source: Empower, with data from IJGlobal.

Figure 27. MENA renewable energy bond underwriting (2019-23)



Source: Empower, with data from IJGlobal.

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5 Upstream debt financing and pipeline acquisitions

As detailed in the previous section, approximately half (50.1%) of projected upstream oil and gas investment in the MENA region (2022-26) is attributable to national oil companies (NOCs), while the remainder is planned primarily by private European companies, namely Italy's Eni, Shell and BP of the United Kingdom, and TotalEnergies of France. Other, smaller players include the U.S. oil majors, Chinese State-owned companies, and a mix of Japanese and Korean public and private enterprises.

This section provides a breakdown of the key actors providing debt financing for upstream activity in the region, including lending and underwriting, as well as bondholder data for NOCs.[89] While NOCs have relatively little investment from external shareholders, they are reliant on hundreds of billions of dollars in debt from international financial institutions.

In recent years, NOCs have also increasingly turned to two other capital-raising strategies: initial public offerings (IPOs) and pipeline asset sales. Most importantly, Saudi Aramco (SASE:2222) was publicly listed on the Saudi Exchange in 2019, raising 29.4 billion USD.[90] This was the largest IPO in history, though just a small fraction of Saudi Aramco's total market capitalization. Meanwhile, Abu Dhabi National Oil Company (ADNOC) has listed shares for several of its divisions on the Abu Dhabi Securities Exchange, including ADNOC Distribution (ADX:ADNOCDIST) in 2017; ADNOC Drilling (ADX:ADNOCDRILL) in 2019; and ADNOC Gas (ADX:ADNOCGAS) and ADNOC Logistics & Services (ADX:ADNOCLS) in 2023. Also in 2023, Oman's OQ Gas Networks (MSM:OQGN) was listed in Muscat.

The Oman deal, in which OQ sold a 49% interest in its gas pipeline network, is a variation on what has become a standard deal type in the industry, raising a total of over 45 billion USD in the MENA region since 2019 — significantly more than all of the aforementioned IPOs combined. Both Saudi Aramco and ADNOC have sold a 49% interest in each of their gas and oil pipeline networks to consortia led by Western private equity firms and, increasingly, sovereign wealth funds, in a series of deals since 2019 (see Table 2 below). These deals are not privatizations of State assets,

[89] A similar breakdown of debt financing for private oil majors was not conducted, since their much broader international footprint makes it difficult to tie upstream activities in specific MENA countries to particular banks and bondholders.

[90] "Saudi Aramco raises IPO to record $29.4 billion by over-allotment of shares," *Reuters*, 12 January 2020, www.reuters.com/article/us-saudi-aramco-stocks-idUSKBN1ZB03D.

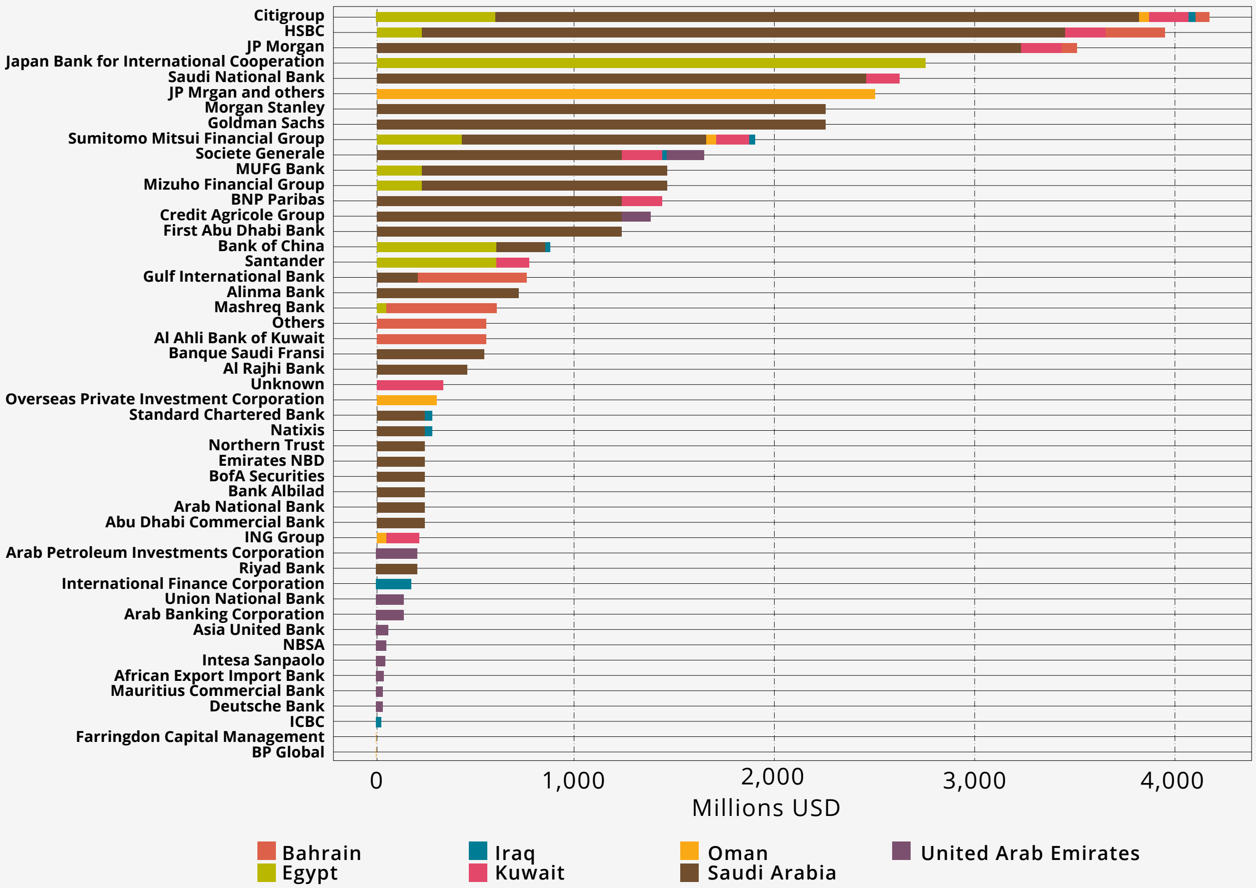
strictly speaking, as they do not confer true ownership, but rather a minority interest in affiliated entities for 20 to 25-year terms under which the NOCs retain majority ownership and operational control. They can be thought of as an alternative form of financing for the upstream activities of NOCs. As explained below, bond refinancing of the bank debt underpinning the deals has actually

managed to avoid the negative ESG ratings associated with oil companies, exposing a serious loophole in ratings systems that must be remedied in European regulation.

5.1 Upstream debt financing

Data consulted from S&P Capital IQ indicates that the large NOCs in MENA generally have lower debt ratios than do international oil companies (IOCs) operating in the region. That said, the total levels of debt held by Saudi Aramco far outweigh any other single producer, amounting to 104.6 billion USD in 2022. Notably, the majority of debt held by MENA oil and gas producers comes from Western banks, led by Citigroup, HSBC, and JPMorgan Chase, as seen in Figure 28. Morgan Stanley and Goldman Sachs are the next-largest non-State lenders, followed by the biggest French and Japanese financial institutions. The largest State lender is the Japan Bank for International Cooperation, to upstream projects in UAE, though a number of MENA banks are party or fully-owned by SWFs (see Section 7).

Figure 28. Lending to MENA upstream projects (2019-23)



Source: Empower, with data from IJGlobal.

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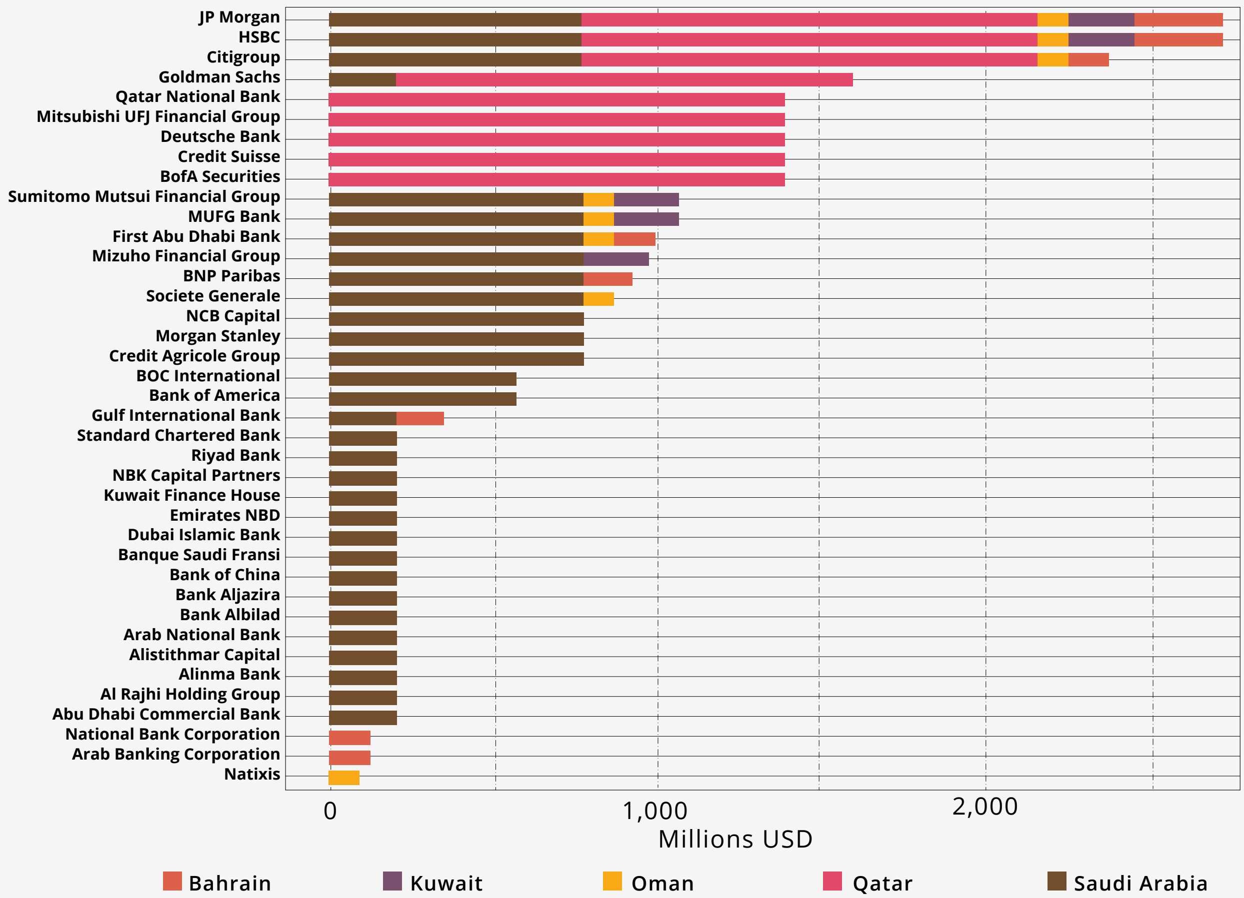
As seen in Figure 29, a very similar mix of international banks is responsible for the majority of bond underwriting to finance upstream activity. In general, MENA banks play an important, but smaller, role in debt financing.

Figure 29. Bond underwriting for MENA upstream projects (2019-23)



Source: Empower, with data from IJGlobal.

Meanwhile, the ultimate buyers of these upstream bonds are also international, overwhelmingly from the United States. Data from Refinitiv (Figure 30) indicates that the most important holders of bonds issued by Saudi Aramco, QatarEnergy, and Bahrain's Bapco Energies (formerly Nogaholding) are U.S. asset managers and insurance companies, led by BlackRock and Fidelity. Large pension funds are also present, though to a much smaller degree.

The amounts for which ownership could be tracked constitute only a small percentage of the bonds and *sukuk* issued by Bapco Energies in 2021-22, according to data compiled by Empower in Stage 1 of this research. As Bahrain is an important hub for Islamic finance, Bapco Energies emits a disproportionately large amount of bond-equivalent *sukuk* financing underwritten by Gulf banks (see section 8).

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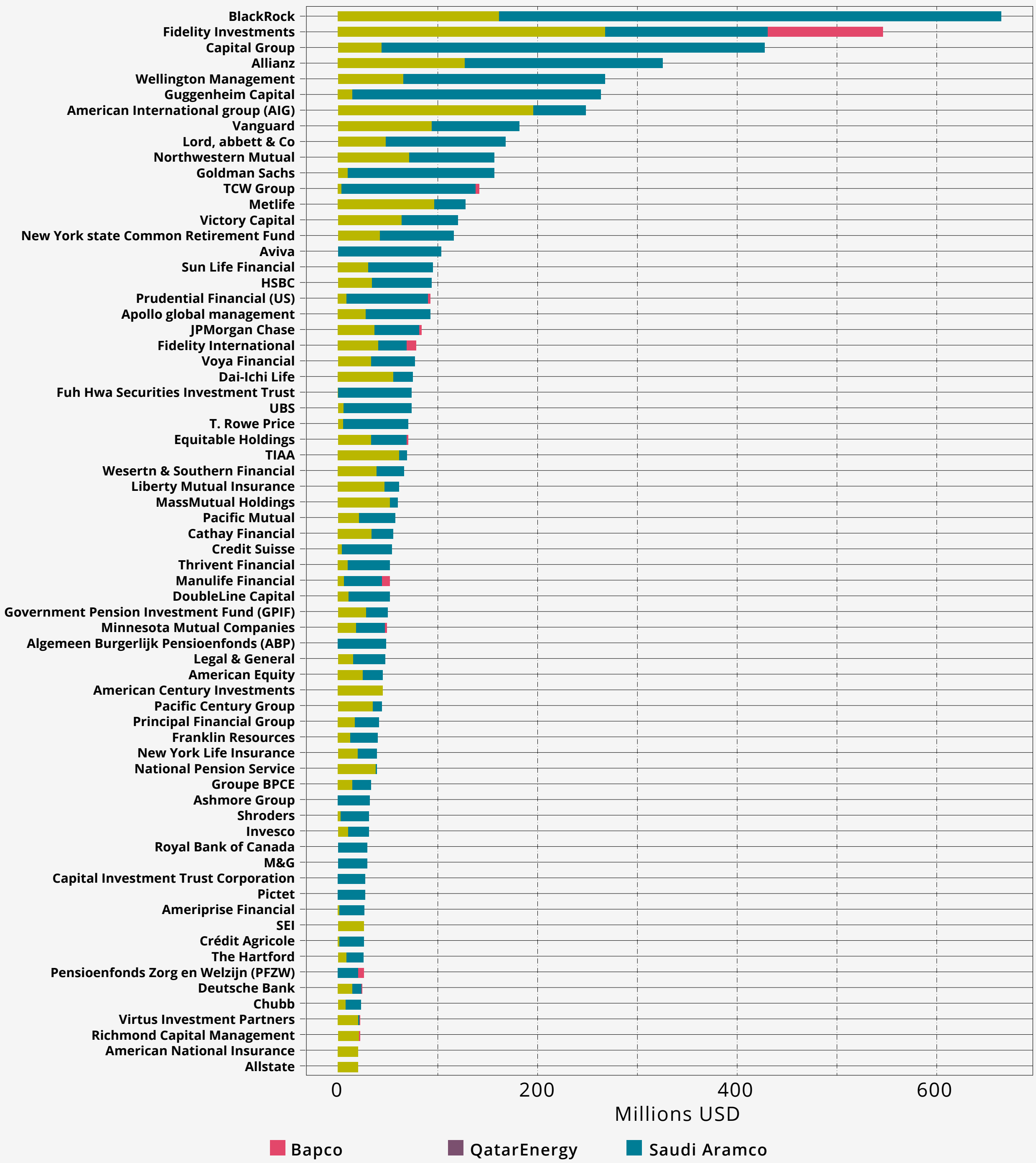
Figure 30. Bondholders of three major NOCs (2021-22, partial)



Source: Empower, with data from Refinitiv.

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It should be noted that, while U.S. institutions are clearly the biggest holders of MENA upstream bonds, the data is incomplete and does not include information on any MENA bondholders due to a lack of financial reporting. Given the sizable bond underwriting activity of MENA banks, it can be assumed that there are also important MENA bondholders. For reference, the organization Urgewald, which provided the bondholder data used in this section, estimates that their compiled data covers only 20-30% of relevant bond holdings worldwide.

5.2 Pipeline asset sales: alternative upstream financing

As compared to upstream finance, where Western banks dominate in both direct lending and bond underwriting, MENA banks have played a slightly larger role in debt financing for pipeline asset sales. This is somewhat counterintuitive, as the deals have been led by Western private equity firms and asset managers (see Table 2).

Pipeline acquisition deals have attracted over 45 billion USD in total equity investment and debt, plus billions more in refinancing, since 2019, in deals for assets primarily in UAE and Saudi Arabia, as well as Oman, Egypt, Algeria, and Tunisia. In October 2023, Bahrain's Bapco Energies announced that it was looking to raise cash from assets in the next six months,[91] indicating that a similar pipeline deal may be in the works.

APICORP suggests that "the triple crisis of 2020 [COVID-19, lower oil prices, and financial disruption] spurred a previously shy privatization activity in GCC [Gulf Cooperation Council], unlocking the value of O&G assets. [...] The ripple effects of the global crisis of 2020 accelerated the implementation of structural reforms, as in the case of Algeria and Kuwait and underscored the importance of diversifying the economy, as in KSA, UAE and Kuwait." The pipeline deals are, fundamentally, a financial tool for NOCs, as they do not confer true ownership in most cases but rather long-term leases with upfront payment in exchange for transport tariffs.

In 2021, when Saudi Aramco sold a 49%, 20-year lease interest in its oil pipeline system to a consortium led by Washington-based private equity firm EIG Global Energy Partners, *The New York Times* reported that "Aramco is under pressure from its main owner, the Saudi government, to generate cash to finance state operations as well as investments like new cities to diversify the economy away from oil. [...] From Saudi Arabia's perspective, the deal has the virtue of raising money up front without giving up control." [92] One expert observer speculates that "it's likely that Aramco's motivation was to try to access the cheaper capital available in opaque private markets." [93]

While such acquisitions have been led primarily by Western private equity, they have also attracted cash equity from China, SWFs, and pension funds, as well as many billions in credit, including various rounds of refinancing, from international banks. The transactions have even become

[91] Yousef Saba, "Bapco Energies could announce move to raise cash from assets in six months - CEO," *Reuters*, 3 October 2023, www.reuters.com/markets/commodities/bapco-energies-could-announce-move-raise-cashassets-six-months-ceo-2023-10-03.

[92] Stanley Reed, "Saudi Aramco sells oil pipeline stake for $12.4 billion," *The New York Times*, 10 April 2021, www.nytimes.com/2021/04/12/business/saudi-aramco-pipeline.html.

[93] Greg Ritchie, "An ESG Loophole Helps Drive Billions into Gulf Fossil Fuel Giants," *BNN Bloomberg*, 11 July 2023, www.bnnbloomberg.ca/an-esg-loophole-helps-drive-billions-into-gulf-fossil-fuel-giants-1.1943940.

somewhat circular; in July 2023, it was reported that UAE sovereign wealth fund ADQ was finalizing a deal to purchase the 40% stake in ADNOC oil pipelines acquired by BlackRock and private equity firm KKR in 2019.[94]

Table 2. Major pipeline acquisitions in MENA (2019-23)

Pipeline deal	Equity investors	Deal amount (USD)	Refinancing
Acquisition of 49% in Aramco Natural Gas Pipelines, 2022	BlackRock (90%) Hassana Investment (8%) China Merchants Bank (1%) Others (1%)	15,500,000,000	4,500,000,000 total (through TMS Issuer S.a.r.l. and Greensaif Pipelines Bidco S.a.r.l.)
Acquisition of 49% in Aramco Oil Pipelines Company's Assets, 2021	EIG Global Energy Partners (80%) Mubadala Investment Company (5%) Silk Road Fund (5%) Hassana Investment (5%) Samsung Asset Management (5%)	12,660,040,000	2,500,000,000 total (through EIG Pearl Holdings S.a.r.l.)
Acquisition of 49% in ADNOC Gas Pipeline Assets, 2020	Global Infrastructure Partners (40%) Brookfield Asset Management (12%) Government of Singapore Investment Corporation (12%) Ontario Teachers' Pension Plan (12%) NH Investment Securities (12%) Snam (12%)	10,140,000,000	3,920,000,000 total (through Galaxy Pipeline Assets Bidco Limited)
Acquisition of 10.2% in ADNOC Gas Pipeline Assets, 2020	Abu Dhabi Development Holding Company (50%) Abu Dhabi Pension Fund (50%)	425,000,000	N/A
Privatization of 40% in ADNOC Oil Pipelines, 2019	KKR (50%) BlackRock (50%)	3,975,000,000	N/A
Acquisition of a 6% Stake in ADNOC Oil Pipelines, 2019	Government of Singapore Investment Corporation	600,000,000	N/A
Acquisition of 3% in ADNOC Oil Pipelines, 2019	Abu Dhabi Pension Fund	303,400,000	N/A
Acquisition of 49.9% in Eni's Algeria & Tunisia Gas Pipelines, 2023	Snam S.p.A.	434,590,000	N/A
Acquisition of 24.5% in Medgaz Pipeline, 2020 (Algeria-Spain)	BlackRock	250,790,000	N/A
Acquisition of 42% in Medgaz Pipeline, 2019 (Algeria-Spain)	Naturgy (81%) Sonatrach (19%)	488,960,000	246,700,000 total
Acquisition of 30% in OQ Gas Networks, 2023	Public Investment Fund (10%) Qatar Investment Authority (10%) Fluxys (10%)	472,000,000	799,800,000 total (Previous, 2020)

Source: Empower, with data from IJGlobal.

[94] "BlackRock and KKR close to selling stake in Adnoc's pipeline network," *Offshore Technology*, 13 July 2023, www.offshore-technology.com/news/blackrock-kkr-selling-oil-pipeline.

The most influential driver of the pipeline acquisition trend on the buyers' side is BlackRock's Larry Fink, who has recently positioned himself as a close business partner and ally of Saudi Aramco and other key players in the region. Fink's relationship with Saudi Arabia has come under increased public scrutiny in recent months, after Saudi Aramco CEO Amin Nasser joined BlackRock's board of directors. However, the relationship dates to at least 2019, with BlackRock's major investment in the company's IPO that year, as well as its first international debt deal. Subsequently, BlackRock provided a cash infusion to Saudi Aramco in the form of its 2022 gas pipeline deal, which attracted 15.5 billion USD, including 1.89 billion USD in cash equity from BlackRock.[95]

BlackRock has invested a lot of cash in these pipeline deals. The firm's Global Energy & Power Infrastructure Fund III (GEPIF III), closed in 2020, was the largest alternative-asset fund raised by BlackRock to date, with 5.1 billion USD. Figures compiled for this report indicate that approximately half of the fund, which was advertised as "diversified geographically and by energy sub-sectors,"[96] was invested as cash equity in pipeline acquisitions in Saudi Arabia, UAE, and Algeria, and 37% of the entire fund went towards a single investment in the Saudi Aramco gas pipeline network. Table 3 presents a partial list of institutional investors in the fund, primarily U.S. pension funds.

Table 3. Institutional investors in BlackRock's GEPIF III fund (partial)

Investor	Amount (USD)
Baltimore City Employees' Retirement System	30 million
California State Teachers' Retirement System (CalSTRS)	250 million
Colorado Public Employees' Retirement Association	75 million
DMB Legal Insurance	No info
Merced County Employees' Retirement Association	5 million
Minnesota Life Insurance Company	No info
New Mexico State Investment Council	164.14 million
New York City Board of Education Retirement System	15.6 million
New York City Employees' Retirement System	87.5 million
New York City Fire Department Pension Fund	17.2 million
New York State Teamsters Conference Pension and Retirement Fund	54.7 million
Plymouth County Retirement Association	No info
Public School Retirement System of Missouri	10 million
San Joaquin County Employees' Retirement Association	No info
State of Connecticut Retirement Plans and Trust Funds	50 million
Teacher Retirement System of Texas	100 million
Teachers' Retirement System of the City of New York	150 million
Teesside Pension Fund	19.44 GBP
Virginia Retirement System	100 million

Source: Empower, with data from Preqin.

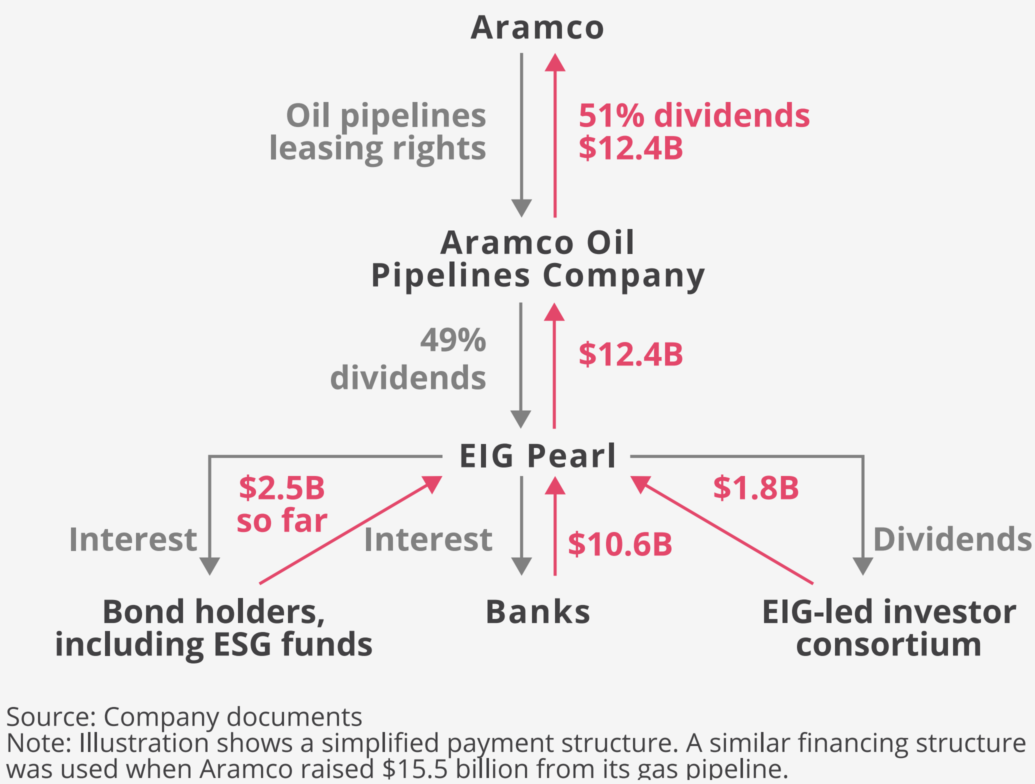
[95] Maureen Farrell, "Larry Fink's Bet on Saudi Oil Money Is Also His Latest E.S.G. Woe," *The New York Times*, 2 August 2023, www.nytimes.com/2023/08/02/business/larry-fink-saudi-arabia-oil-blackrock.html.

[96] BlackRock, "BlackRock raises US$5.1B for Global Energy & Power Infrastructure Fund," press release, 15 April 2020, www.black-rock.com/institutions/en-us/strategies/alternatives/real-assets/infrastructure/globalenergy-power-infrastructure-fund.

BlackRock reportedly had some difficulty fundraising with more ESG-conscious investors for GEPIF III, particularly in Europe, because of the fund's gas-heavy portfolio. This has led BlackRock to emphasize greener investments in the larger GEPIF IV, which had a first close of 4.5 billion USD in November 2022 and is targeting 7.5 billion in total investment. The fund has yet to make most of its deals, and investors may be in a position to influence that process, to ensure it stays away from fossil fuel infrastructure.

The pipeline acquisitions by BlackRock and others have used a "relatively standardized" structure for debt and refinancing by which the minority "equity" investment (really a longterm lease) is supported with a bridge loan from banks accounting for upwards of 80% of the initial capital. The bridge loan is then refinanced with bonds issued through special purpose vehicles (SPVs), in jurisdictions including Luxembourg and Jersey, that have misleadingly been characterized as ESG-neutral investments.[97] This has apparently been possible due to "data gaps" in the rating process,[98] effectively giving NOCs undeserved access to ESG-neutral financing instruments.

Figure 31. Saudi Aramco oil pipeline acquisition deal structure



Source: Hermina Pauli, "Greenwashing 101: How Saudi Aramco Tapped into Sustainable Funds Via An ESG Investment Loophole," *The Deep Dive,* 12 July 2023.

[97] Greg Ritchie, "An ESG Loophole Helps Drive Billions into Gulf Fossil Fuel Giants," *BNN Bloomberg*, 11 July 2023, www.bnn-bloomberg.ca/an-esg-loophole-helps-drive-billions-into-gulf-fossil-fuel-giants-1.1943940.

[98] Ulf Erlandsson, "Arbitrage of a Pipeline," Anthropocene Fixed Income Institute, 3 April 2023, anthropocenefii.org/afii-gasbcm-eig-prl#8d855f24-cf36-4a57-b91a-2118c43f95c4.

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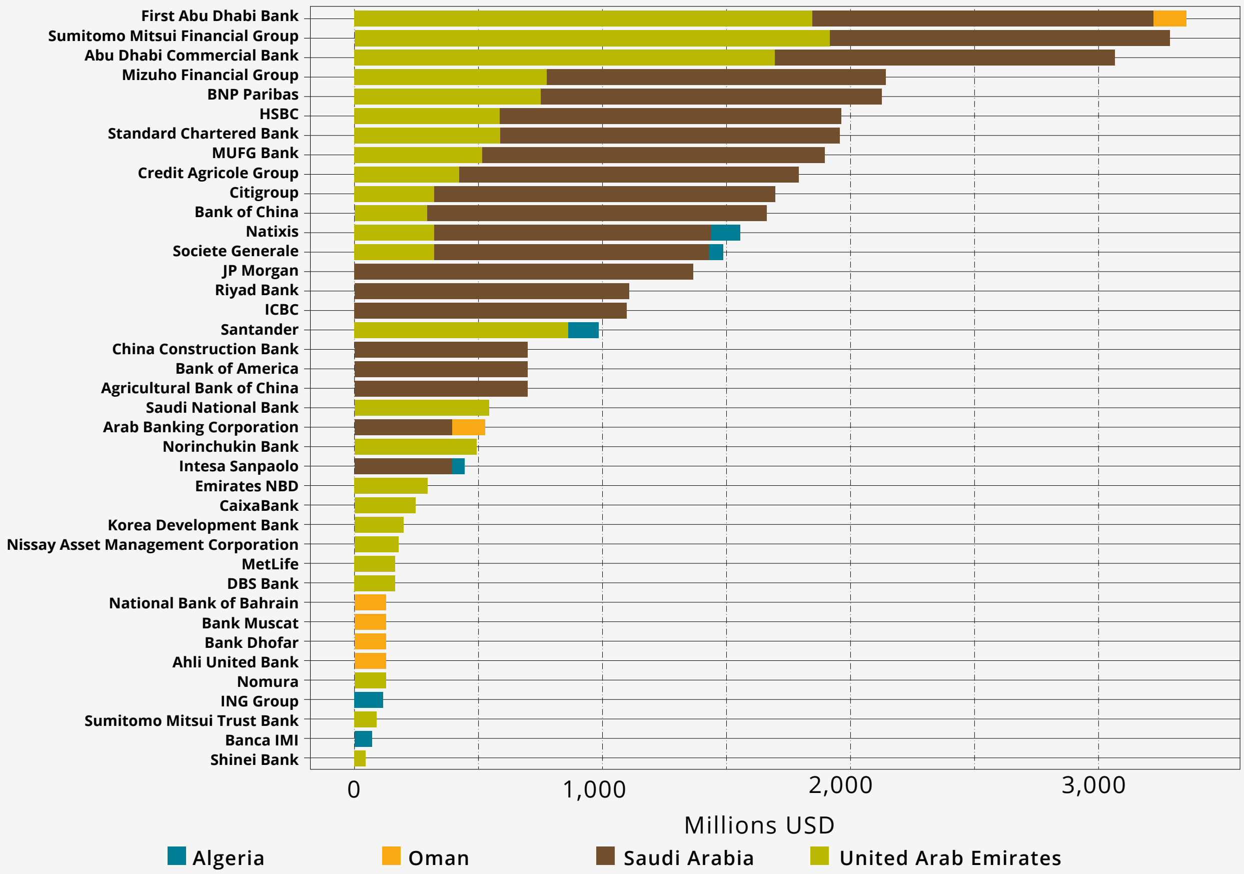
Figure 32 presents data on the banks providing loans for pipeline projects in MENA since 2019, most of which are made up of the aforementioned bridge loans for acquisition deals.

Figure 32. Lending to MENA pipeline projects (2019-23)



Source: Empower, with data from IJGlobal.

The bonds used for refinancing of pipeline acquisition debt are not being sold as green bonds or *sukuk* explicitly, but they have nonetheless managed to receive higher ESG scores than Saudi Aramco itself, reflected by their inclusion in JPMorgan Chase [99] and BlackRock [100] ESG indexes. Sustainalytics, a Morningstar subsidiary, even rated the EIG-led SPV as having very low ESG risk among the top 20% of entities covered.[101]

Ulf Erlandsson of the Anthropocene Fixed Income Institute, who has researched this trend in some depth, notes that the bonds' issuance in Europe (see Table 4) could be considered "a case of jurisdictional greenwashing," as they appear to have "very limited end-investor exposure in

[99] Ulf Erlandsson, "Arbitrage of a Pipeline," Anthropocene Fixed Income Institute, 3 April 2023, anthropocenefii.org/afii-gasbcm-eig-prl#8d855f24-cf36-4a57-b91a-2118c43f95c4.

[100] Hermina Paull, "Greenwashing 101: How Saudi Aramco Tapped into Sustainable Funds Via An ESG Investment Loophole," *The Deep Dive*, 12 July 2023, thedeepdive.ca/greenwashing-101-how-saudi-aramcotapped-into-sustainable-funds-via-an-esg-investment-loophole.

[101] Greg Ritchie, "An ESG Loophole Helps Drive Billions into Gulf Fossil Fuel Giants," *BNN Bloomberg*, 11 July 2023, www.bnnbloomberg.ca/an-esg-loophole-helps-drive-billions-into-gulf-fossil-fuel-giants-1.1943940.

the European Union (the asset manager being U.S.-based, bonds being denominated in USD, and no real economic activities based in Europe)." [102] Erlandsson considers it "likely that the choice of jurisdiction is due to tax- or regulatory optimisation and seems to divert from European regulators' pursuit of increased transparency around 'green' financial transactions, as well as Luxembourg's efforts to position itself in terms of 'green finance'." [103]

Table 4. MENA pipeline acquisition bond refinancing

Deal	Bond refinancing entity	Jurisdiction	Tranche/ Series	Listed on	Amount (USD)	Maturity
Acquisition of 49% in Aramco Natural Gas Pipelines, 2022	TMS Issuer S.a.r.l.	Luxembourg	*Sukuk*	Frankfurt Stock Exchange	1.5 billion	23 Aug 2032
	Greensaif Pipelines Bidco S.a.r.l.	Luxembourg	Commercial	Frankfurt Stock Exchange	1.5 billion	23 Feb 2038
		Luxembourg	Formosa	Frankfurt Stock Exchange	1.5 billion	23 Feb 2042
Acquisition of 49% in Aramco Oil Pipelines Company's Assets, 2021	EIG Pearl Holdings S.a.r.l.	Luxembourg	Commercial	London Stock Exchange	1.25 billion	21 Aug 2036
		Luxembourg	Commercial 2	London Stock Exchange	1.25 billion	30 Nov 2046
		Luxembourg	No info	No info	910 million	21 Aug 2037
		Luxembourg	No info	No info	825 million	31 Aug 2042
Acquisition of 49% in ADNOC Gas Pipeline Assets, 2020	Galaxy Pipeline Assets Bidco Limited	Jersey	Series A	GEM Dublin	1.1 billion	30 Sep 2027
		Jersey	Series B	GEM Dublin	1.55 billion	31 Mar 2036
		Jersey	Series C	GEM Dublin	1.35 billion	30 Sep 2040
		Jersey	Series D	GEM Dublin	1.75 billion	31 Mar 2034
		Jersey	Series E	GEM Dublin	2.17 billion	30 Sep 2040

Source: Empower, with data from Fitch Ratings.

[102] Ulf Erlandsson, "Arbitrage of a Pipeline," Anthropocene Fixed Income Institute, 3 April 2023, anthropocenefii.org/afii-gasbcm-eigprl#8d855f24-cf36-4a57-b91a-2118c43f95c4.

[103] *Ibid*.

The issuance of these deceptively packaged fossil fuel bonds has led to calls for more regulatory scrutiny. At a minimum, Erlandsson suggests that the SPVs should be subject to the EU's Corporate Sustainability Reporting Directive. The new standards, which stem from the European Green Deal, were approved on July 31, 2023, and go into effect on January 1, 2024.[104] The EU also adopted new green bond regulations in October 2023, but the fact that the pipeline SPVs are not marketed as green bond issuers *per se* would appear to limit the applicability of such rules.[105] Still, more aggressive exclusion criteria, such as those recently adopted by France and Belgium, would prohibit entities with fossil fuel exposure from inclusion in ESG funds or indexes. France will no longer provide its national ESG label to investment funds that include fossil-fuel companies with expansion plans, while the Belgian Central Labeling Agency determined that "companies held in ESG funds can't be involved in exploration or development of new fields."[106]

In June 2023, the executive arm of the European Union introduced a proposal to overhaul the ESG rating industry, "with goals that include breaking up financial conglomerates that provide ESG scores along with other services, and forcing providers to publish their methodologies."[107] The European Commission set a deadline of December 15, 2023 for feedback concerning SFDR (Sustainable Finance Disclosure Regulation) and the potential categorization of financial products to avoid greenwashing, and plans to publish a report on SFDR in the second quarter of 2024.[108],[109]

Erlandsson also suggests that "European regulators should evaluate the developing trend of these funding vehicles being established in Luxembourg, despite having minimal economic association with or benefit to European stakeholders."[110]

It may be worth reaching out to institutions invested in the pipeline SPV bonds, both to explain that these are essentially bonds for Saudi Aramco and ADNOC and to explain the potential regulatory implications of their fossil fuel exposure. In Elandsson's view, "some investors, such as the Danish Medical Association's Pension Fund and various ESG ETFs," have simply "initiated large lending positions to EIGPRL [the ticker for one of the SPVs] as they mechanically follow the bond index rules."[111] Data consulted on Bloomberg shows that most bondholders, including of

[104] Jon McGowan, "European Union Approves Climate/ ESG Reporting Standards," *Forbes*, 2 August 2023, www.forbes.com/sites/jonmcgowan/2023/08/02/european-union-approves-climate-esg-reporting-standards/?sh=d1100243f42e.

[105] World Wide Fund For Nature, "European Parliament increases transparency for green bonds," 5 October 2023, www.wwf.eu/?11908716/European-Parliament-increases-transparency-for-green-bonds.

[106] "France restricts ESG fund labels to target fossil-fuel industry," *Luxembourg Times*, 7 November 2023, www.luxtimes.lu/businessandfinance/france-restricts-esg-fund-labels-to-target-fossil-fuel-industry/4652237.html; and, Frances Schwartzkopff, "French Fund Rule Puts $7.6 Billion of Oil, Gas Assets at Risk," *Bloomberg*, 16 November 2023, www.bloomberg.com/news/articles/2023-11-16/french-fund-rule-puts-7-6-billion-of-oil-gas-assets-at-risk#xj4y7vzkg.

[107] Greg Ritchie, "An ESG Loophole Helps Drive Billions into Gulf Fossil Fuel Giants," *BNN Bloomberg*, 11 July 2023, www.bnnbloomberg.ca/an-esg-loophole-helps-drive-billions-into-gulf-fossil-fuel-giants-1.1943940.

[108] European Commission, Directorate-General For Financial Stability, Financial Services and Capital Markets Union, "Targeted Consultation Document: Implementation of the Sustainable Finance Disclosures Regulation (SFDR)," September 2023, finance.ec.europa.eu/system/files/2023-09/2023-sfdr-implementation-targetedconsultation-document_en.pdf.

[109] Natasha Turner, "SFDR Articles 8 and 9 may 'disappear altogether' as consultation launches," *ESG Clarity*, 15 September 2023, esgclarity.com/sfdr-articles-8-and-9-may-disappear-altogether-as-consultationlaunches.

[110] Ulf Erlandsson, "Arbitrage of a Pipeline," Anthropocene Fixed Income Institute, 3 April 2023, anthropocenefii.org/afii-gasbcm-eigprl#8d855f24-cf36-4a57-b91a-2118c43f95c4.

[111] Ulf Erlandsson, "New EIG/Aramco bonds in ESG indices: EOM flow risks," Anthropocene Fixed Income Institute, 15 February 2022, anthropocenefii.org/afii-aramco-replacement.

the Shariah-compliant *sukuk* issuance, are U.S. and European asset managers, insurance companies, and banks, with a much smaller number of MENA and East Asian investors, likely reflecting incomplete data. For an incomplete list of bondholders, see the accompanying spreadsheet, "Pipeline SPV bondholders."

5.3 BlackRock's growing influence

The pipeline acquisitions are part of a broader move by BlackRock to fund-raise for MENA investments, as it has investment partnerships with Saudi Arabia's Public Investment Fund (PIF)[112] and the UAE's Mubadala,[113] and announced plans for a 1 billion USD private equity fund with both entities in May 2023. BlackRock is considering domiciling the fund, which will operate out of Riyadh, in the Abu Dhabi Global Market.[114] At COP28 in December 2023, the UAE announced a 30 billion USD climate investment fund with BlackRock and other private equity firms.[115]

From 2019-24, the former managing director of Kuwait's sovereign wealth fund, Bader M. Alsaad, was a member of BlackRock's board of directors. Kuwait's SWF owns over 5% of BlackRock itself, making the country BlackRock's largest shareholder after competing asset manager Vanguard. Despite ambitious plans for privatization, Kuwait has managed to attract only negligible foreign direct investment (FDI) flows in recent years, though it has registered a modest uptick since mid-2022.[116]

Saudi Arabia's SWF also holds approximately 740 million USD in BlackRock shares, purchased in June 2022. "Mr. Fink has told BlackRock employees and others that the Middle East — and Saudi Arabia in particular — is important to the future of the firm."[117] In 2021, Saudi Arabia hired BlackRock to advise on a new 53 billion USD fund dedicated to infrastructure projects.[118]

Larry Fink was on the Advisory Committee for COP28 in Dubai, the president of which is Sultan Ahmed Al-Jaber, CEO of ADNOC and chairman of Masdar,[119] who met with Fink in New York in 2021.[120] In October 2023, Fink met with Abu Dhabi Crown Prince Mohamed bin Zayed Al Nahyan, with representatives of the Mubadala sovereign wealth fund also present.[121]

[112] "Saudi wealth fund, BlackRock to jointly explore Mideast infrastructure projects," *Reuters*, 14 November 2022, www.reuters.com/business/saudi-wealth-fund-blackrock-jointly-explore-mideast-infrastructureprojects-2022-11-14.

[113] Mubadala, "Mubadala Capital and BlackRock Form Partnership Across Private Equity Funds," press release, 11 August 2021, www.mubadala.com/en/news/mubadala-capital-and-blackrock-form-partnership-acrossprivate-equity-funds.

[114] "BlackRock targeting $1bn for new Middle East infra PE fund," *Private Equity Wire*, 10 May 2023, www.privateequitywire.co.uk/2023/05/10/320497/blackrock-targeting-1bn-new-middle-east-infra-pe-fund.

[115] Jenni Reid, "UAE seeks to silence critics with $30-billion climate fund pledge with BlackRock, Brookfield," 1 December 2023, *CNBC*, www.cnbc.com/2023/12/01/uae-commits-30-billion-to-new-climate-focused-fundrun-with-blackrock.html.

[116] CEIC Data, "Kuwait Foreign Direct Investment," www.ceicdata.com/en/indicator/kuwait/foreign-directinvestment.

[117] Maureen Farrell, "Larry Fink's Bet on Saudi Oil Money Is Also His Latest E.S.G. Woe," *The New York Times*, 2 August 2023, www.nytimes.com/2023/08/02/business/larry-fink-saudi-arabia-oil-blackrock.html.

[118] "BlackRock gets new Saudi mandate for infrastructure fund," *Pensions & Investments*, 25 October 2021, www.pionline.com/infrastructure/blackrock-gets-new-saudi-mandate-infrastructure-fund.

[119] COP28, Advisory Committee, www.cop28.com/advisory-committee.

[120] ADNOC Group, X post, 22 September 2021, twitter.com/ADNOCGroup/status/1440692894126407688.

[121] "Abu Dhabi takes up investment opportunities with BlackRock, JPMorgan," *Zawya*, 25 October 2023, www.zawya.com/en/wealth/wealth-management/abu-dhabi-takes-up-investment-opportunities-withblackrock-jpmorgan-rfz79gxh.

In 2019, after the high-profile murder of journalist Jamal Khashoggi, reportedly ordered by Saudi Crown Prince Mohammed bin Salman, Mr. Fink called the murder "horrifying," but said he would not "run away" from doing business with Saudi Arabia. This occurred shortly after Fink co-hosted an event with Mohammed bin Salman in Jeddah and BlackRock made major investments in Saudi Aramco later that year.[122]

In June 2023, Fink announced that he had stopped using the term ESG, for which he had received considerable backlash after being more outspoken than his peers in asset management on the subject, leading Republican state governments in the U.S. to coordinate an effort to pull money from BlackRock funds.[123] Fink may be walking a similarly fine line as a power broker for energy investments in the Gulf, given the escalation of geopolitical conflict in the region.

[122] Maureen Farrell, "Larry Fink's Bet on Saudi Oil Money Is Also His Latest E.S.G. Woe," *The New York Times*, 2 August 2023, www.nytimes.com/2023/08/02/business/larry-fink-saudi-arabia-oil-blackrock.html.

[123] Isla Binnie, "BlackRock's Fink says he's stopped using 'weaponised' term ESG," *Reuters*, 26 June 2023, www.reuters.com/business/environment/blackrocks-fink-says-hes-stopped-using-weaponised-term-esg2023-06-26.

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6 Upstream exploration in North Africa

North African gas has become increasingly strategic amid the Russia-Ukraine war. Though Russian LNG imports to Europe rose in 2023 after a drop-off in pipeline imports to the continent, the war has motivated European countries to develop plans for longer-term independence from Russian gas.[124] The Mediterranean pipelines and shipping routes between Europe and North Africa position the latter as a natural supply valve for increased gas imports. In 2022, Algeria supplanted Russia as Italy's primary gas supplier,[125] as it already was for Spain.[126]

Gas-related resources in North Africa are mainly present in Algeria, Libya, and Egypt. As partially State-owned Italian energy giant Eni S.p.A. (BIT:ENI) — which has the largest footprint of any international oil company across the three countries — affirmed in September 2023, North African countries will be the company's main suppliers for several years. CEO Claudio Descalzi has observed that Africa, particularly North Africa, is increasingly on the company's radar because of the vast amounts of gas and oil it holds, as well as for its renewable energy potential.[127]

Given the panorama of renewed gas exploration and extraction in North Africa, Empower conducted research on the key actors driving this trend, as well as oil and gas concessions in Algeria and Egypt. Human sources consulted, as well as industry reporting and financial data, point to Egypt, in particular, as the focus of new upstream exploration in the region. As of 2023, Libya and Algeria are running short on new gas sources, and Algeria's underdeveloped onshore fields are primarily in remote areas, far from existing infrastructure and immersed in civil unrest, which has limited international investment possibilities.[128]

Meanwhile, international companies have been finding some of the largest fields in the Mediterranean in Egyptian waters, including the Zohr and Nargis fields. Consensus among experts

[124] Kate Abnett, "EU on track to quit Russian fossil fuels - report," *Reuters*, 24 October 2023, www.reuters.com/business/energy/eu-track-quit-russian-fossil-fuels-report-2023-10-24.

[125] Francesa Landini, "Middle East crisis not impacting gas supply to Italy, Eni CEO says," *Reuters*, 24 October 2023, www.reuters.com/business/energy/middle-east-crisis-not-impacting-gas-supply-italy-eni-ceo-says2023-10-24.

[126] "Spain relying on Russian gas as overall imports fall," *Reuters*, 8 September 2023, www.reuters.com/business/energy/spain-relying-russian-gas-overall-imports-fall-2023-09-08/#:~:text=As%20a%20result%20the%20share,a%20pipeline%20across%20the%20Mediterranean.

[127] "Why Africa is poised to become a big player in energy markets," *The Economist*, 18 July 2023, www.economist.com/interactive/middle-east-and-africa/2023/07/18/why-africa-is-poised-to-become-a-bigplayer-in-energy-markets.

[128] Interviews were conducted with Filippo Taglieri and Alessandro Runci of ReCommon, as well as Laura ElKatiri, a consultant with IRENA and Agora Energiewende.

consulted by Empower is that, as of 2023, Egypt was the most attractive venue for energy companies seeking upstream opportunities in North Africa.[129]

In February 2023, Eni acquired BP's business in Algeria, after the latter announced it would be leaving the country after three decades.[130],[131] BP still holds several offshore concessions in Egypt and was awarded major blocks in 2022 (see Map 5).

Although Egypt presents more attractive upstream investment opportunities for Western companies, recent announcements also signal renewed attempts at tapping into natural gas in other countries.[132] In early 2023, Chevron announced it would negotiate a deal with Algeria to explore natural gas sources and, six months later, in August 2023, Eni and BP lifted restrictions imposed on Libya in order to resume oil and gas extraction operations in the war-stricken country.[133],[134]

It is no surprise that Western companies have invested heavily in the region, as most gas produced in North Africa reaches Europe. Despite interruptions related to increased domestic demand and the Israeli invasion of Gaza, in 2023 Egypt exported 72.5% of its LNG shipments to Europe, particularly Turkey (24%) and Spain (15%), while 24% was sent to the Asia-Pacific region.[135] Algeria's LNG shipments in 2022 were mainly sent to Turkey (38%), France (28%), and Spain (13%).[136] However, it also sends gas to Italy through the TransMediterranean pipeline, which travels across Tunisia. In fact, Algeria sends 88% of all pipeline-related exports to Europe and the remainder to other African countries.[137],[138]

Increased upstream extraction for export requires additional midstream infrastructure and corporate interests must navigate international politics to advance plans for both. To reach both Spain and Italy, pipelines travel across Morocco and Tunisia through the Medgaz and Trans-Mediterranean pipelines, respectively.[139] In addition to exporting its own gas reserves, Algeria has plans to receive gas from Nigeria via the Trans-Saharan pipeline, a 13 billion USD project that has seen

129 *Ibid*.

130 Eni, "Eni achieves the closing for the acquisition of BP's business in Algeria, operating two major gas fields," 28 February 2023, www.eni.com/en-IT/media/press-release/2023/02/eni-achieves-closing-acquisition-bpbusiness-algeria-operating-two-major-gas-fields.html.

131 BP, "bp to sell its business in Algeria to Eni," 7 September 2022, www.bp.com/en/global/corporate/newsand-insights/press-releases/bp-to-sell-its-business-in-algeria-to-eni.html.

132 Algeria's data on oil and gas concessions is relatively opaque, as official information on bids does not directly identify the companies currently holding "blocks" (areas leased for exploration or extraction).

133 Benoit Faucon, "Chevron Explores Algerian Gas Plans Amid Russian Sanctions," *Wall Street Journal*, 6 February 2023, www.wsj.com/articles/chevron-explores-algerian-gas-plans-amid-russian-sanctions11675679272.

134 "Libya's NOC says ENI, BP, Sonatarch to lift force majeure and resume activities," *Reuters*, 3 August 2023, www.reuters.com/business/energy/libyas-noc-says-eni-bp-sonatarch-lift-force-majeure-resume-activities2023-08-03.

135 Energy Institute, "2023 Statistical Review of World Energy," www.energyinst.org/statistical-review.

136 EIA, "Country Analysis Brief: Algeria," 2 March 2023, www.eia.gov/international/content/analysis/countries_long/Algeria/algeria.PDF.

137 International Trade Administration, "Tunisia - Country Commercial Guide," 30 July 2022, www.trade.gov/country-commercial-guides/tunisia-electrical-power-systems-and-renewable-energy.

138 "Trans-Mediterranean Natural Gas Pipeline," *Hydrocarbons Technology*, www.hydrocarbonstechnology.com/projects/transmed-pipeline.

139 Hassan Butt, "Algerian pipeline gas flows to Southern Europe remain robust in 2023," *S&P Global Insights*, 22 May 2023, www.spglobal.com/commodityinsights/en/market-insights/latest-news/natural-gas/052223-algerian-pipeline-gas-flows-to-southern-europe-remain-robust-in-2023.

its possibilities of making a final investment decision dwindle as Niger's 2023 coup destabilized that country, through which the pipeline would necessarily travel.[140]

A competing pipeline, the Nigeria-Morocco pipeline, would transport gas from Nigeria to Morocco across the northwestern African seaboard and is currently being planned by the interested governments. Both countries have been negotiating a deal since 2016, which finally began to materialize in 2022 and 2023, with several other African countries signing a deal with Morocco and Nigeria.[141],[142] Although, as of 2023, the project was in its early stages, it was valued at 25 billion USD and construction was estimated to be completed in stages over 25 years.[143] In 2022, prior to the 2023 Nigerien coup, experts were already skeptical about construction of the Trans-Saharan pipeline, which they stated would not be built for another ten years.[144] These two competing pipelines have heightened tensions between Morocco and Algeria, which have had geopolitical conflicts over the years.[145],[146]

Two international gas consortia exist in the region: the East Mediterranean Gas Forum (EMGF) and the Gas Exporting Countries Forum (GECF). The EMGF is comprised of Cyprus, Egypt, France, Greece, Israel, Italy, Jordan, and Palestine, and includes the United States and the European Union as observers.[147] According to experts consulted at Italian NGO ReCommon, the EMGF was intended to serve as a mediating body between Turkey and Cyprus; however, Turkey did not join the forum, rendering the group somewhat ineffective in promoting gas development.[148] Furthermore, the war in Gaza has heightened tensions between countries in the region and has limited investment possibilities even for fields considered "low-hanging fruit," such as Gaza Marine, located off the coast of Gaza, Palestine.

The GECF is a larger international organization, though it excludes major exporters Canada, Australia, and the U.S. In addition to Egypt, Libya, and Algeria, its members include Bolivia, Peru, and Venezuela, several Sub-Saharan African countries, the United Arab Emirates, Qatar, Iran, and Russia, among others.[149] Research published by the GECF claims that the African continent

[140] Adekunle Agbetiloye, "Challenges mount for Nigeria's $13 billion Trans-Saharan gas pipeline amid Niger coup and financial woes," *Business Insider Africa*, 9 September 2023, africa.businessinsider.com/local/markets/challenges-mount-for-nigerias-dollar13-billion-trans-saharan-gaspipeline-amid-niger/nygbrdr?op=1.

[141] "Nigeria approves proposal for gas pipeline project to Morocco," *Africa News*, 2 June 2022, www.africanews.com/2022/06/02/nigeria-approves-proposal-for-gas-pipeline-project-to-morocco.

[142] Mary Izuaka, "Nigeria, Morocco, others sign agreements on gas pipeline project," *Premium Times*, 16 June 2023, www.premiumtimesng.com/business/business-news/604982-nigeria-morocco-others-sign-agreementson-gas-pipeline-project.html.

[143] Yunus Kemp, "Morocco-Nigeria gas project vital to Africa and the energy link to Europe," *ESI Africa*, 8 November 2023, www.esi-africa.com/research-and-development/morocco-nigeria-gas-project-vital-to-africaand-the-energy-link-to-europe.

[144] Martina Schwikowski, "African countries seek to revive Sahara gas pipeline," *DW News*, 8 December 2022, www.dw.com/en/african-countries-seek-to-revive-trans-saharan-gas-pipeline-dream/a-62778681.

[145] "Timeline: Algeria and Morocco's diplomatic disputes," *Al Jazeera*, 15 January 2023, www.aljazeera.com/news/2023/1/15/timeline-algeria-and-moroccos-diplomatic-disputes.

[146] Anthony Dowrkin, "North African standoff: How the Western Sahara conflict is fuelling new tensions between Morocco and Algeria," European Council on Foreign Relations, 8 April 2022, ecfr.eu/publication/north-africanstandoff-how-the-western-sahara-conflict-is-fuelling-new-tensions-between-morocco-and-algeria.

[147] East Mediterranean Gas Forum, emgf.org.

[148] Interview with Filippo Taglieri and Alessandro Runci, ReCommon, 3 October 2023.

[149] Gas Exporting Countries Forum, "GECF Country List," www.gecf.org/countries/country-list.aspx.

will be responsible for the "second largest volumetric growth [in natural gas], gaining more than 11% share of global supply by 2050… Africa is the only region where gas production growth will more than double." In addition, according to the GECF, Europe is the only region in which gas production is expected to fall.[150] By 2050, the Forum expects that Egypt, Algeria, Southern Africa, and Nigeria will account for 84% of total upstream investment in Africa.[151]

6.1 Algeria upstream oil and gas

In September 2023, Algeria's TFT Consortium, made up of Sonatrach and TotalEnergies, on the one hand, and the Enterprise Nationale de Grands Travaux Pétroliers, on the other, signed an engineering, procurement, and construction (EPC) contract to extend both companies' infrastructure in the Tin Fouye-Tabankort (TFT) field. The agreement included 11 new wells over the next 24 months.[152] It follows prior negotiations between TotalEnergies and Sonatrach, in June 2023, which resulted in two contracts worth 332 million USD and 407 million USD, respectively, to develop the necessary infrastructure to increase the TFT field's output for LNG exports.[153]

In early 2023, Algeria launched a bid round for the first time in nearly ten years, stating it would offer 10-12 blocks.[154] There are also reports that Algeria is planning to explore and develop unconventional shale gas. In fact, in 2019, Algeria's National Agency for the Valorization of Hydrocarbon Resources (ALNAFT) stated that Algeria had the fourth-largest shale gas resources in the world.[155]

In July 2022, Eni was awarded blocks 404 and 208 (as shown in Map 4), in an area in which the company has been present since the 1980s. As of 2023, Eni produces 130,000 barrels per day and is the main international company in the country.[156] In February 2023, Eni acquired BP's business, including two major gas fields: in Sallah and in Amenas.[157] In 2018, Eni and Sonatrach signed an agreement that awarded Eni a 49% stake in the North Berkin Basin.[158]

[150] Gas Exporting Countries Forum, "Global Gas Outlook 2050," December 2022, www.gecf.org/_resources/files/pages/gecf-global-gas-outlook-2050/gecf-gas-outlook-2022.pdf.

[151] *Ibid*.

[152] Sonatrach, "Le Groupement TFT signe un contrat en EPC avec l'Entreprise Nationale des Grands Travaux Pétroliers (ENGTP)," press release, 19 September 2023, sonatrach.com/presse/le-groupement-tft-signe-uncontrat-en-epc-avec-lentreprise-nationale-des-grands-travaux-petroliers-engtp.

[153] Sonatrach, "SONATRACH – TotalEnergies Signature de plusieurs accords dans le domaine des hydrocarbures et des énergies renouvelables," press release, 9 July 2023, sonatrach.com/presse/sonatrach-totalenergiessignature-de-plusieurs-accords-dans-le-domaine-des-hydrocarbures-et-des-energies-renouvelables.

[154] Aydin Calik, "Algeria Prepares Oil & Gas Bid Round," *MEES*, 4 November 2023, www.mees.com/2022/11/4/oilgas/algeria-prepares-oil-gas-bid-round/a78e7660-5c35-11ed-be6c-83c32ec2b462.

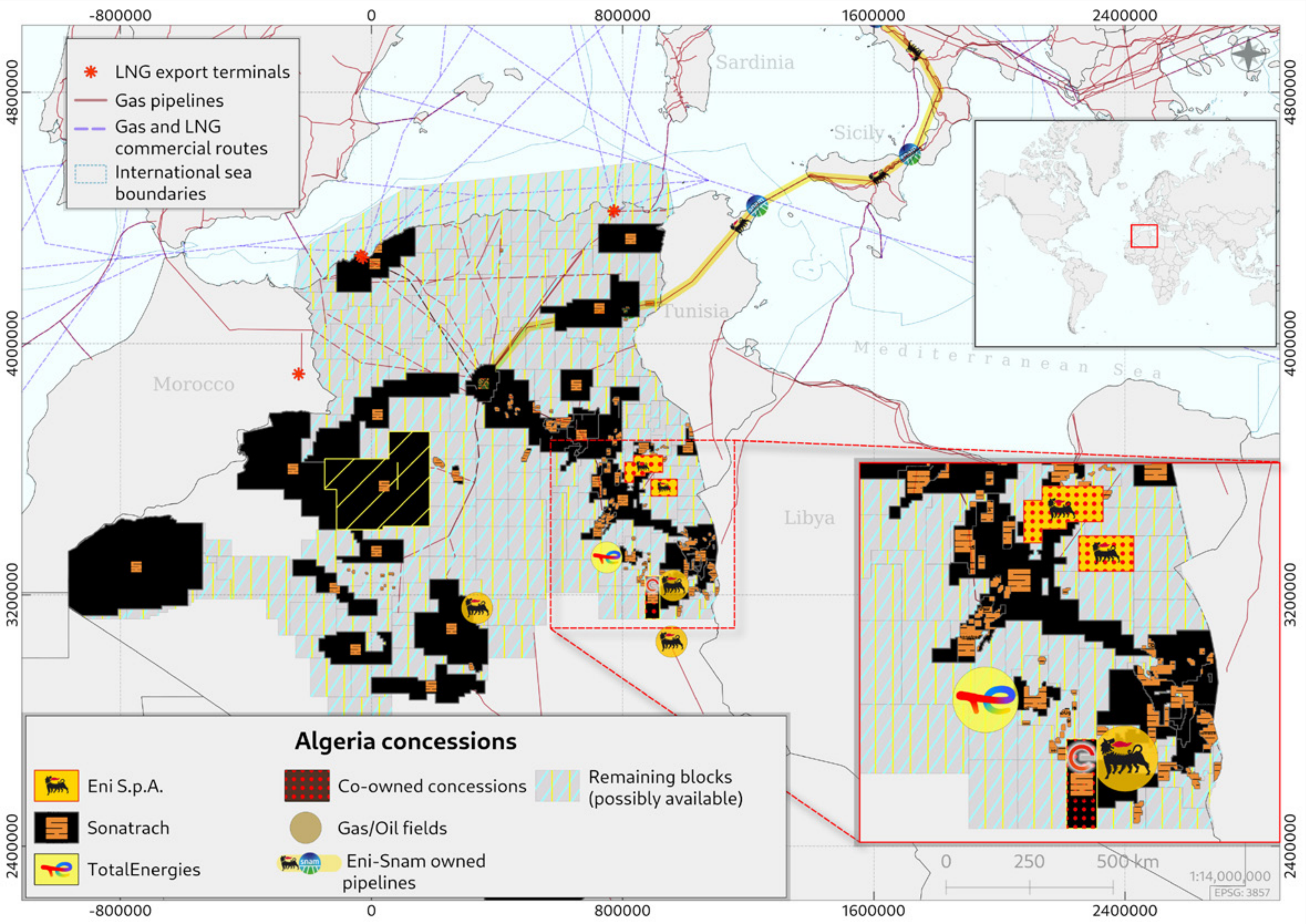
[155] US-Algeria Business Council, "2019 US Algeria Energy Forum," 8 March 2019, www.us-algeria.org/usabcevents/us-abc-past-events/2019-us-algeria-energy-forum.html.

[156] Eni, "Eni signs a new contract on blocks 404-208 in Algeria," 19 July 2022, www.eni.com/en-IT/media/pressrelease/2022/07/eni-signs-new-contract-blocks-404-208-algeria.html.

[157] Eni, "Eni achieves the closing for the acquisition of BP's business in Algeria, operating two major gas fields," press release, 28 February 2023, www.eni.com/en-IT/media/press-release/2023/02/eni-achieves-closingacquisition-bp-business-algeria-operating-two-major-gas-fields.html.

[158] Eni, "Eni further strengthens its presence in the Algerian North Berkine basin," 29 October 2018, www.eni.com/en-IT/media/press-release/2018/10/eni-further-strengthens-its-presence-in-the-algerian-northberkine-basin.html.

Map 4. Algeria oil and gas concessions (November 2023)



Source: Empower, using data from the National Agency for the Valorization of Hydrocarbon Resources (ALNAFT) and Global Energy Monitor.

6.2 Egypt upstream oil and gas

Egypt has awarded its oil and gas concessions to several international oil majors, including BP, Shell, Chevron, and Eni. In October 2023, the Egyptian government announced gas imports had fallen to zero. A significant amount of these imports came from Israel; however, since the war began against Gaza, exports from Israel (which mainly came from the Tamar field) to Egypt have halted, causing a spike in gas prices in Europe. Although Egyptian exports make up a small share of total European gas supply, speculation over delays to reopen the Tamar field, which was set to break production records in 2023, would contribute to a decrease in gas availability to Europe and upward pressure on gas prices.[159] Prior to the Gaza war, in early October 2023, Israeli gas exports were expected to grow 30% and an additional gas field (the Gaza Marine field), holding approximately one trillion cubic feet of natural gas, was expected to be jointly developed off the coast of Gaza by Egyptian government-owned company EGAS and the Palestinian Authority.[160] The Gaza Marine field, located just over 150 kilometers south of the Tamar field, was halted because of the war.

In January 2023, Chevron and Eni announced that they had found a 3.5 trillion cubic-foot gas field in a jointly held concession off the northeast coast of Egypt. The Nargis field began drilling in February 2023 and was expected to start production in Summer 2024.[161] It is considered one of the largest fields alongside Zohr, also operated by Eni (see Map 6).[162],[163]

The regulatory process for Egypt's concessions starts with an initial exploration permit and, if the company holding the concession locates oil or gas, it is also required to obtain a development lease to begin construction and production. In 2022, Egypt awarded Eni subsidiary IEOC, BP, and ExxonMobil several offshore blocks off Egypt's northern coast. Eni was awarded blocks along the border with Israel and Gaza; in fact, some of these blocks are directly adjacent to the stalled Gaza Marine project.[164]

The recently discovered Nargis field is located within a group of blocks awarded to Eni that is next to Gaza and Israel. The Nargis field discovery is seen as advantageous for Eni's recent focus on offshore exploration in Egypt, suggesting more exploration activities will be performed in the five additional blocks awarded to the company in 2022, all in the surrounding area of the Nargis field. These blocks include North Rafah, North El Fayrouz, North East El Arish, Tiba, and Bellatrix-Seti East (see Map 6).[165] In September 2023, Eni pledged to invest 7.7 billion USD in Egypt over four years.[166]

[159] Doloresz Katanich, "European gas prices soar after Egypt reports zero imports," *Euronews Business*, 30 October 2023, www.euronews.com/business/2023/10/30/european-gas-prices-soar-after-egypt-reports-zeroimports.

[160] "Israel gives nod to Gaza Marine gas development, wants security assurances," *Reuters*, 18 June 2023, www.reuters.com/business/energy/israel-gives-nod-gaza-marine-gas-development-wants-securityassurances-2023-06-18.

[161] Yomna Yasser, "Egypt's Nargis gas field to start production in one-and-a-half years: minister," *Amwal AlGhad*, 14 February 2023, en.amwalalghad.com/egypts-nargis-gas-field-to-start-production-in-one-and-ahalf-years-minister.

[162] Peter Stevenson, "Chevron & Eni Confirm Egypt Nargis Gas Find," *MEES*, 20 January 2023, www.mees.com/2023/1/20/oil-gas/chevron-eni-confirm-egypt-nargis-gas-find/1e6ab760-98be-11ed-b273-779d5bfa9ce8.

[163] "Egypt discovers large gas field in Mediterranean, minister says," *Reuters*, 28 December 2022, www.reuters.com/business/energy/egypt-discovers-large-gas-field-mediterranean-minister-says-2022-12-18/

[164] Egyptian Upstream Gateway, "Bid Rounds," eug.petroleum.gov.eg.

[165] Eni, "Eni Announces a New Gas Discovery in the Eastern Mediterranean Sea, offshore Egypt," 15 January 2023, www.eni.com/assets/documents/press-release/migrated/2023-en/01/PR_Eni_Egitto.pdf.

[166] "Eni, partners pledge $7.7 bln investment in Egypt over four years," *ahramonline*, 3 September 2023, english.ahram.org.eg/NewsContent/3/16/507733/Business/Energy/Eni,-partners-pledge--bln-investment-inEgypt-over.aspx.

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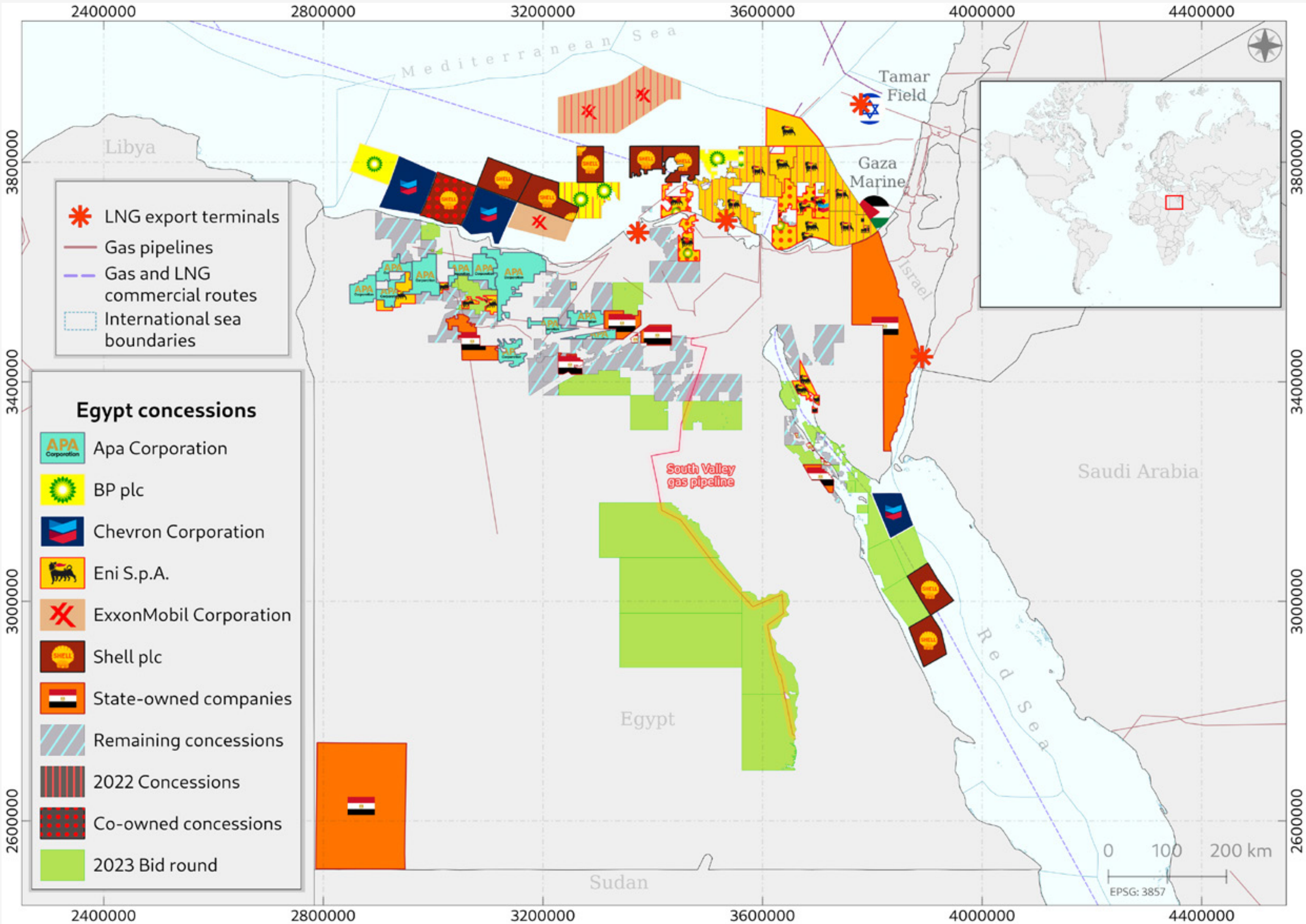
Map 5. Egypt oil and gas concessions (September 2023)

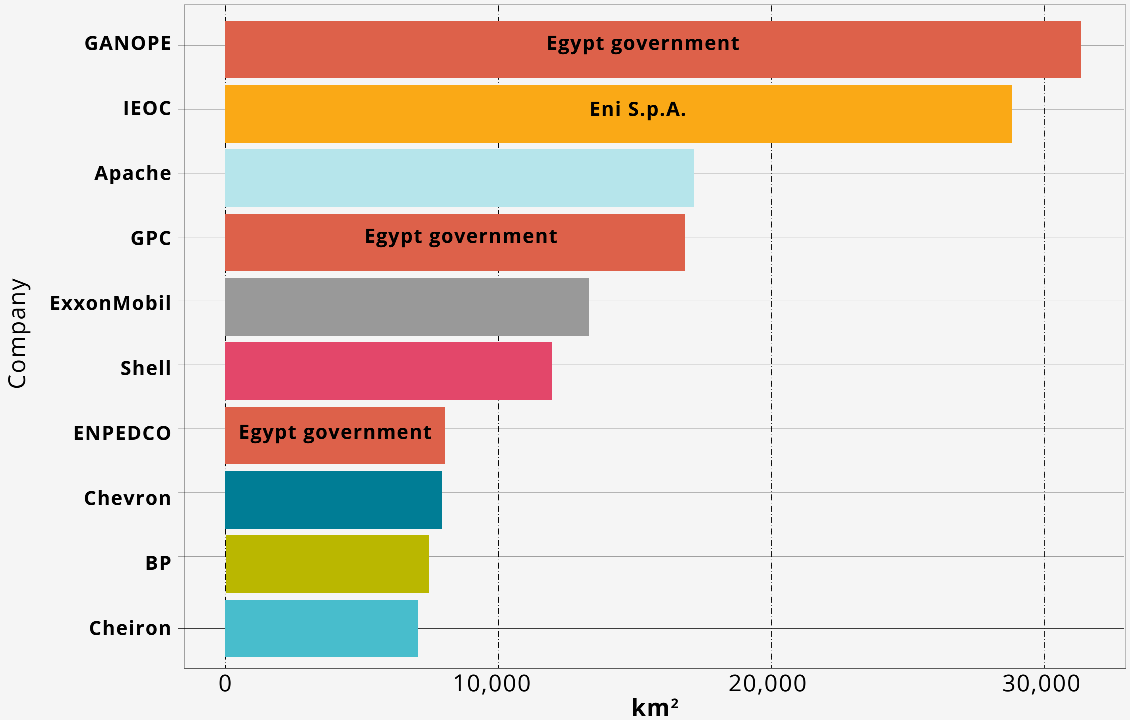


Source: Empower, using data from the Egypt Upstream Gateway and Global Energy Monitor.

BP holds a 50% share of the Bellatrix-Seti East block, but only Eni fully operates it and, as of November 2023, no major discoveries had been announced in the area.[167] In early 2023, Eni announced a potentially major field in the North East El Arish block, but, in March 2023, it formally announced that the Thuraya field tests had not performed as expected and that it had decided to shut down further exploration. Eni has since moved to the Orion prospect North East Hap'y block, located to the west of North East El Arish.[168],[169]

Eni and Chevron are expecting to find fields similar to Nargis, and plans to explore blocks awarded in 2022 have been accelerated. Similarly, Chevron announced the Nargis field would be developed using a "rapid development plan based on current facilities."[170] No announcements have yet been made regarding the North Rafah and North El Fayrouz blocks, but further exploration is expected in the area near Nargis and Gaza Marine.

Figure 33. Area leased for oil and gas by company, Egypt (September 2023)



Source: Empower, using data from the Egypt Upstream Gateway.[171]

[167] BP, "bp awarded new exploration blocks in Egypt's Offshore Nile Delta," 28 November 2022, www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-awarded-new-exploration-blocks-inegypts-offshore-nile-delta.html.

[168] Peter Stevenson, "Eni's Key Egypt Thuraya Well Flops," *MEES*, 31 March 2023, www.mees.com/2023/3/31/corporate/enis-key-egypt-thuraya-well-flops/8609c9a0-cfbb-11ed-950db3bda2398868.

[169] Iain Esau, "Eni wraps up North Africa wildcat — sources point to it being a disappointment," *Upstream Online*, 20 April 2023, www.upstreamonline.com/exclusive/eni-wraps-up-north-africa-wildcat-sources-pointto-it-being-a-disappointment/2-1-1437545?zephr_sso_ott=CELVMX.

[170] *Ibid*.

[171] Egyptian Upstream Gateway, "Bid Rounds," eug.petroleum.gov.eg.

Other notable blocks awarded in 2022 are Masry and Cairo offshore, won by ExxonMobil. They cover approximately 11,000 square kilometers and are completely operated and owned by ExxonMobil.[172] In June 2023, the Egyptian government announced it had signed agreements worth 319 million USD to drill 13 wells for exploration, which would include the Masry and Cairo blocks for gas and oil exploration.[173] In turn, ExxonMobil announced it would be investing 200 million USD in exploration and is expected to begin activities in 2024.[174]

As of November 2023, Eni was the second-largest holder — and the largest among nongovernment companies — of gas and oil blocks awarded by the Egyptian government, with nearly 30,000 square kilometers. The Egyptian government held some 56,200 square kilometers through its State-owned companies, which only operate onshore blocks; all offshore blocks in the Mediterranean Sea, which must pay a share to the Egyptian government, are operated by foreign companies that are better equipped to execute such projects. Other notable block holders include BP and U.S. companies Apache, owned by APA Corporation (Nasdaq:APA), ExxonMobil, and Chevron.[175]

In 2023, the Egyptian government announced it would bid 102,586 square kilometers during that year. As of November 2023, no announcement had been made regarding the winners of the 2023 bid round. Notable blocks include a major area in the south of the country — the Horus 1,2,3 blocks —, as well as the North and South Al Baraka blocks, which are traversed by the South Valley Gas Pipeline.[176] All blocks in the 2023 bid round are to be offered as a Production Sharing Agreement (PSA) with either the Egyptian General Petroleum Corporation (GPC) or the South Valley Egyptian Petroleum Holding Corporation (GANOPE) as counterparts. Winners of the 2023 bid round are expected to perform exploration during a maximum of seven years and, if awarded, GPC and GANOPE will hold a 70% share of onshore blocks, 65% of Gulf of Suez blocks, and 60% in Red Sea blocks.[177]

[172] "ExxonMobil secures exploration rights in Egypt's outer Nile Delta," *Reuters*, 10 January 2023, www.reuters.com/world/africa/exxonmobil-secures-exploration-rights-egypts-outer-nile-delta-2023-01-10.

[173] "Egypt approves 3 gas and oil exploration agreements worth $319M," *Egypt Today*, 30 July 2023, www.egypttoday.com/Article/3/125953/Egypt-approves-3-gas-and-oil-exploration-agreements-worth-319M.

[174] "MPs approve fresh borrowing, oil exploration," Enterprise Egypt, 31 October 2023, enterprise.news/news/story/bef1d586-c5e9-4061-a227-b80ecdbff768/MPs%20approve%20fresh %20borrowing,%20oil%20exploration.

[175] Egyptian Upstream Gateway, "Bid Rounds," eug.petroleum.gov.eg.

[176] *Ibid*.

[177] EGPC and GANOPE, "2023 International Bid Round Main Commercial Terms," September 2023, ent.news/2023/9/1532.pdf

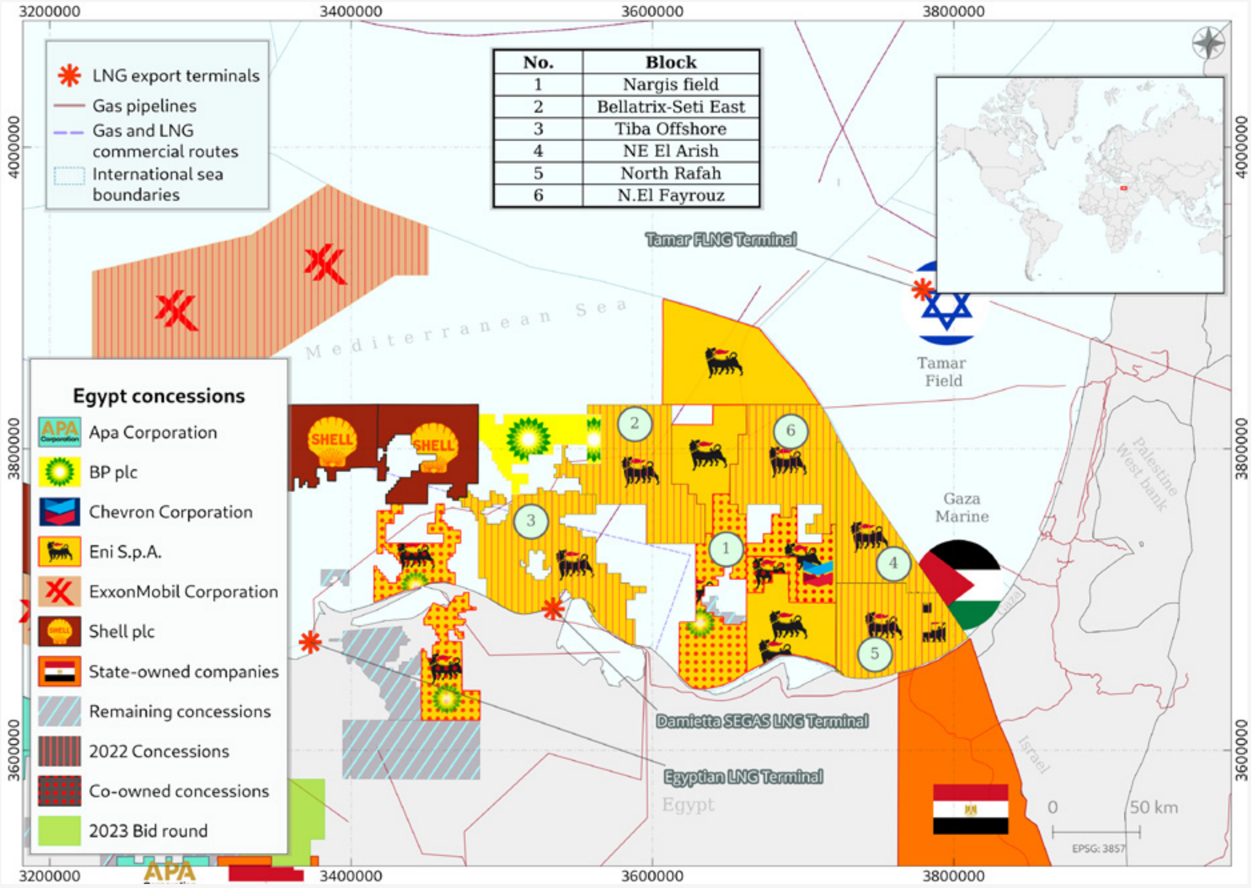
Table 5. Egypt's 2023 bid round blocks

Block name	Company	Area (km²)
Sea Bird	GANOPE	240.1
EGY-RS-1A	GANOPE	1,872.9
EGY-RS-2	GANOPE	2,696.3
EGY-RS-2A	GANOPE	3,011.3
EGY-RS-3A	GANOPE	3,192.9
East Geisum	GANOPE	264.2
East Gabal El Zeit	GANOPE	86.4
East Shadwan	GANOPE	867.0
Horus-1	GANOPE	14,295.1
Horus-2	GANOPE	17,063.4
Horus-3	GANOPE	17,830.9
North Al Baraka	GANOPE	11,805.2
South Al Baraka	GANOPE	11,077.1
Egy-GOS-(1) East El-Galala	GPC	971.9
Egy-WD-(2) South East Bahariya	GPC	3,662.3
Egy-WD-(6) North West El Moghra	GPC	1,810.2
Egy-WD-(1) South Wadi El-Rayan	GPC	3,096.3
Egy-ED-(1)(A) West Kheir	GPC	867.3
Egy-GOS-(2) East El-Hamd	GPC	508.6
E_Sidi_Barani	GPC	735.6
EGY-GOS-(3) East Badri	GPC	303.6
Egy-ED-(2) Wadi Sannur	GPC	4,137.3
Egy-WD-(9) Wadi El Natrun	GPC	2,190.3

Source: Empower, using data from the Egypt Upstream Gateway.[178]

[178] Egyptian Upstream Gateway, "Bid Rounds," eug.petroleum.gov.eg.

Map 6. Egypt gas and oil concessions (September 2023)
Suez Canal and Israel/Gaza border close up



Source: Empower, using data from the Egypt Upstream Gateway and Global Energy Monitor.[179]

Although no profitable fields have appeared in blocks listed in Table 4, the Egyptian government is moving to accelerate exploration of new fields that can leverage existing infrastructure in the surrounding areas. As stated by Egypt's Ministry of Petroleum in 2019, the Southern Valley Gas pipeline was intended to develop gas infrastructure in the southern desert and facilitate future connections to the gas and oil grid in remote areas.[180] Map 5 shows the pipeline extending into Egypt's southernmost region, in close proximity to a block of concessions.

6.3 Eni's North African expansion

Among corporate actors in the North African oil and gas sector, Eni stands out as the most aggressive investor in Algeria, Libya, and Egypt, having recently purchased BP's Algeria business and having made 8 billion USD and 7.7 billion USD capital commitments in Libya and Egypt,

[179] *Ibid*.

[180] Ministry of Petreoleum, "Strategic Projects - South Valley Gas Pipeline," archived by Wayback Machine, 19 March 2019, web.archive.org/web/20190319204123/http://www.petroleum.gov.eg/en/ProjectsandActivities/StrategicProjects/Pages/SouthValley-GasPipeline.aspx.

respectively, in 2023. In Algeria and Libya, the company is involved in lessfavorable upstream activity in partnership with NOCs; in Egypt, which presents more attractive upstream exploration opportunities, Eni has more oil and gas leases than any other private actor.

As a corporation that is 32.5%-owned by the Italian government, Eni is an extension of the country's energy interests, controlling the majority stake in the gas pipeline system running from Algeria to Italy, which has absorbed the bulk of decreased Russian gas supply since 2022, as well as a 50% stake in Egypt's Damietta LNG export terminal. Eni is highly dependent on its North African operations; 37.4% of the company's total oil and gas production revenue came from North Africa in 2022 and 56.7% came from Africa.[181] The proportion of its proven gas reserves in those regions is even higher, at 47.2% and 65%, respectively, suggesting that the company's future upstream activity will be increasingly focused on the region.[182]

In Egypt, Eni has a heightened economic incentive to increase gas production capacity so that it may export more LNG to Europe. As Alessandro Runci of ReCommon explained to Empower, the company sells a percentage of its gas there to the Egyptian government, but at rates less favorable than what it receives from European customers. So, while the Egyptian government's primary interest is to ensure domestic supply, the company is disproportionately interested in expanding capacity to make use of its LNG export terminal in Damietta, which it owns in a joint venture with the government.

Eni's largest shareholders are the Italian Ministry of Economy and Finance and development bank Cassa Depositi e Prestiti. Greenpeace Italy and ReCommon sued Eni and these two public shareholders in June 2023 for the company's human rights violations and climate change impacts.[183] ReCommon, in particular, has extensive knowledge of other Italian State and corporate actors involved in the MENA energy sector, such as the country's largest banks, though the organization has not actively campaigned on North African extraction and is still "far away from formulating a demand saying divest Eni."[184]

Incremental campaign victories in recent years include Italian export credit agency SACE ending support for unabated gas power generation, though gas exploration and production facilities will still qualify for support until 2026. Meanwhile, Italian bank UniCredit has adopted a policy not to engage in unconventional extraction, including ultra-deep extraction, such as in Mozambique.[185]

While private-sector IOCs are also active in the Gulf, their relationship to North African governments and NOCs puts them in a position of greater economic and political leverage than they enjoy

[181] Eni, 2022 Annual Report, www.eni.com/assets/documents/eng/reports/2022/Annual-Report-2022.pdf, p. 364.

[182] Eni, 2022 Annual Report, www.eni.com/assets/documents/eng/reports/2022/Annual-Report-2022.pdf, p. 374.

[183] See: "Greenpeace Italy et. Al. v. ENI S.p.A., the Italian Ministry of Economy and Finance and Cassa Depositi e Prestiti S.p.A.," *Climate Case Chart*, climatecasechart.com/non-us-case/greenpeace-italy-et-al-v-eni-spa-theitalian-ministry-of-economy-and-finance-and-cassa-depositi-e-prestiti-spa.

[184] Interview with Filippo Taglieri and Alessandro Runci, ReCommon, 3 October 2023.

[185] *Ibid*.

with Gulf counterparts such as ADNOC and Saudi Aramco, which have far more access to international financing. European IOCs such as Eni, in particular, may present more feasible points of intervention and civil society collaboration as it concerns their plans for gas exploration and extraction in North Africa.

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7 Sovereign wealth funds in the energy transition

While the energy transition, coupled with internal and external electricity supply demands, continues to drive green energy financing in the MENA region, capital flows toward gas power show no signs of disappearing. In 2021, just over 70% of electricity generation in MENA was powered by gas and this percentage is expected to hold steady through 2024, while oil power is projected to decrease from 24% to 20% between 2021-24.[186]

In the view of Laura El-Katiri, a specialist in the MENA energy transition consulted by Empower,[187] although certain Gulf and North African countries have taken important steps in starting to transition to more renewable sources, the chances of them rapidly phasing out gas power from their energy plans are "0.0%," as phasing out coal and oil-generated power will likely be first on the agenda.[188] Gas power is presented as a greener alternative compared to oil and is seen as a transition fuel, according to various MENA countries' Vision 2030.[189] Therefore, regional governments continue to plan the expansion of their gas power infrastructure, particularly in the Middle East.

In some countries, like Iraq, gas power expansion is driven by the necessity for more extensive energy infrastructure. Meanwhile, in other countries, especially in the Gulf region, the emphasis is on the energy transition, which is expected to shift energy mixes from reliance on oil and gas to a combination of gas and renewables.

[186] APICORP, "MENA Energy Investment Outlook 2022-26," June 2022, www.apicorp.org/wp-content/uploads/APICORP-Annual-MENA-Energy-Investment-Outlook-2022-26_EN.pdf, p. 35

[187] El-Katiri is a consultant with IRENA and Agora Energiewende. Interview conducted 3 November 2023.

[188] Interviewed by Empower, 3 November 2023.

[189] Vision 2030 is a planning exercise promoted by the United Nations for countries to define specific goals for long-term development. As available, Empower has complemented information provided in countries' Vision 2030 statements with other energy or development plans.

[190] Global Energy Monitor, "Gas Glut," September 2023, globalenergymonitor.org/wp-content/uploads/2023/09/Gas-Glut-2023-GEM.pdf, p. 8.

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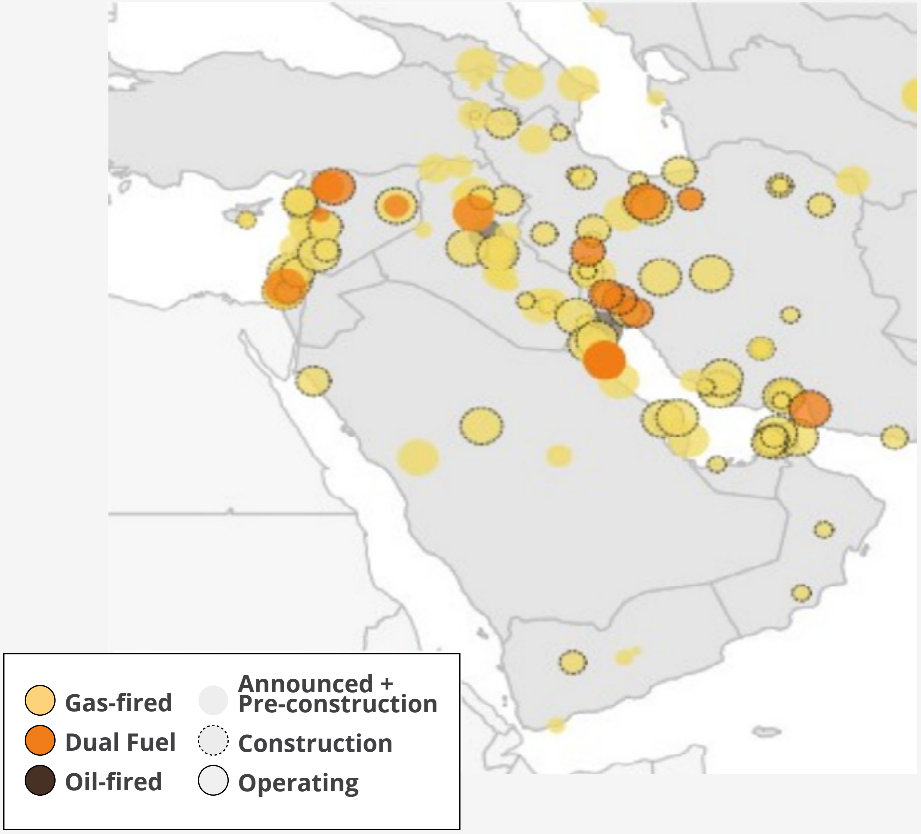
Map 7. Oil and gas-fired power plants in development in the Middle East



Source: Global Energy Monitor.[190]

For instance, in Saudi Arabia, oil power decreased from 42% to 33% of energy production between 2016-22, while gas power increased from 58% to 67%.[191] The Saudi Vision 2030 program has set a target energy mix of 50% renewables and 50% gas power by 2030. The Public Investment Fund (PIF) — Saudi Arabia's SWF — is a key player in its country's energy transition, as it has the mandate to develop 70% of the renewable energy targeted by the Saudi Vision 2030.[192] On the other hand, the United Arab Emirates (UAE) is planning to transition its energy mix from 67% gas and 30% oil power in 2020 to 44% renewables and 38% gas power in 2050.[193]

North African countries still heavily rely on oil and gas for energy production, but their planned expansion of assets in this sector is more modest than in the Middle East. In 2020, gas was more prevalent than oil in countries like Algeria (68% vs. 32%)[194] and Egypt (58% vs. 34%),[195] which

[191] U.S. Energy Information Administration, "Saudi Arabia," 11 October 2023, www.eia.gov/international/analysis/country/SAU.

[192] PIF, "Green Finance Framework," February 2022, www.pif.gov.sa/Investors%20Files%20EN/DNV%20Second%20Party%20Opinion.pdf, p. 1.

[193] Embassy of the UAE in Washington, DC, "UAE Energy Diversification," www.uae-embassy.org/discover-uae/climate-and-energy/uae-energy-diversification#:~:text=The%20UAE%20Energy%20Strategy%202050,12%20percent%20clean%20coal.

[194] IRENA, "Algeria Energy Profile," www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Algeria_Africa_RE_SP.pdf.

[195] IRENA, "Egypt Energy Profile," www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Egypt_Africa_RE_SP.pdf.

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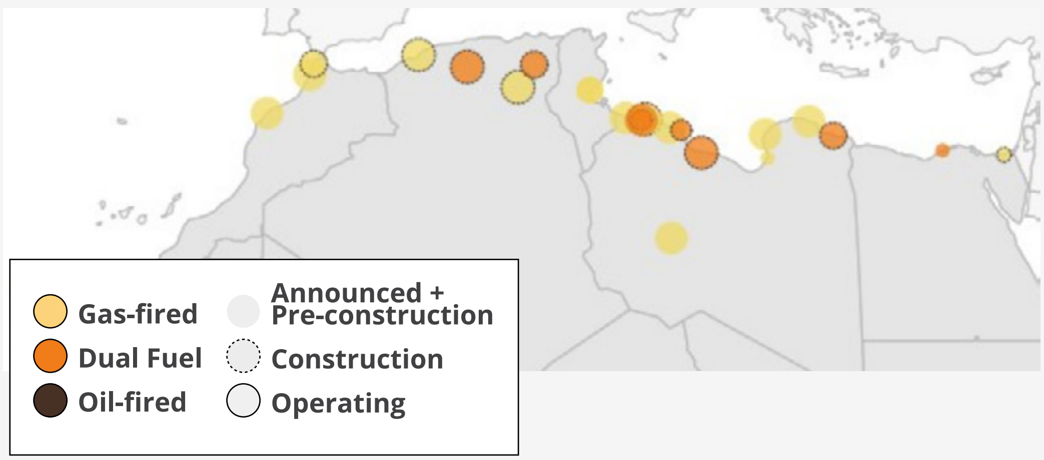
control much of the gas production in the region. Algeria aims to increase the share of renewable energy production to 27% by 2035[196] and Egypt is adding only 375 MW of oil and gas-fired plants, while planning to increase renewables to 42% by 2035.[197]

In contrast to other North African countries, Morocco is not planning to significantly expand its gas power assets and the country is ambitiously aiming for renewables to constitute 52% of electricity production by 2030.[198] This has much to do with the country's relative lack of hydrocarbon resources, resulting in a unique energy mix that is mainly based on imported oil (54%) and coal (32%), followed by renewables (11%) and gas power (3%).[199] Despite their different energy resources, countries like Algeria, Egypt, and Morocco are facing the challenge of increasing energy exports, particularly to Europe, while meeting internal demands. In this context, renewables are emerging as a realistic option, attracting significant investments from international private and public institutions.

Map 8. Oil and gas-fired power plants in development in North Africa



Source: Global Energy Monitor.[200]

[196] International Trade Administration, "Algeria Country Commercial Guide," 31 January 2023, www.trade.gov/country-commercial-guides/algeria-renewable-energy.

[197] Egyptian Ministry of Environment, "2050 National Climate Change Strategy," 2022, www.eeaa.gov.eg/Uploads/Topics/Files/20221206130720583.pdf, p. 14.

[198] Global Energy Monitor, "MENA grows renewables by half but clings to risky hydrogen and gas," globalenergymonitor.org/wp-content/uploads/2023/08/MENA-grows-renewables-by-half-GEM.pdf, p. 7.

[199] IRENA, "Morocco Energy Profile," www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Africa/Morocco_Africa_RE_SP.pdf.

[200] Global Energy Monitor, "Gas Glut," September 2023, globalenergymonitor.org/wp-content/uploads/2023/09/Gas-Glut-2023-GEM.pdf, p. 8.

[201] This calculation is an approximation, as not all investments could easily be disaggregated according to percentage ownership by SWFs of investing entities.

[202] TAQA, "Xlinks' first-of-a-kind renewable energy project secures backing from TAQA and Octopus Energy," 25 April 2023, www.taqa.com/press-releases/xlinks-first-of-a-kind-renewable-energy-project-secures-backingfrom-taqa-and-octopus-energy.

Empower identified approximately 181 billion USD of financing for power generation across the MENA region, encompassing projected and executed equity and debt, between 2019-26. Of this total, 70.45% was allocated to green energy and 29.55% to gas power. Most of this financing (101 billion USD) corresponds to projected equity for renewable energy projects to be developed or in development between 2022-26.

Many of the companies and banks financing power projects in the region are Statecontrolled through SWFs, which accounted for roughly 40.3% of identified financing between 2019-2026.[201] While SWF resources are mainly directed towards green energy, SWFs still financing gas power projects, both directly and through the energy companies and banking institutions in which they are shareholders. This section analyzes the role of SWFs in the MENA region energy transition, providing a detailed breakdown of their role in financing both renewable and gas power projects in the region.

7.1 Green vs. gas power financing in MENA

As mentioned, the largest investments in power generation were identified in the form of projected equity for 2022-26 in green energy, totaling 101 billion USD. The top equity investors in green energy are SWF-related energy companies (with investment more heavily weighted towards the Gulf), as well as private Western energy firms (more weighted towards North Africa). However, investment is mixed; for instance, the largest projected investment in the MENA region (16.8 billion USD) comes from Xlinks First Limited, a British entity with minority investment from Abu Dhabi National Energy Company (ADX:TAQA) — majority-owned by one of Abu Dhabi's sovereign wealth funds, ADQ — and France's TotalEnergies, among others. Xlinks is responsible for developing the UK Power Project, which will transport solar and wind energy from Morocco to the UK via submarine cable.[202]

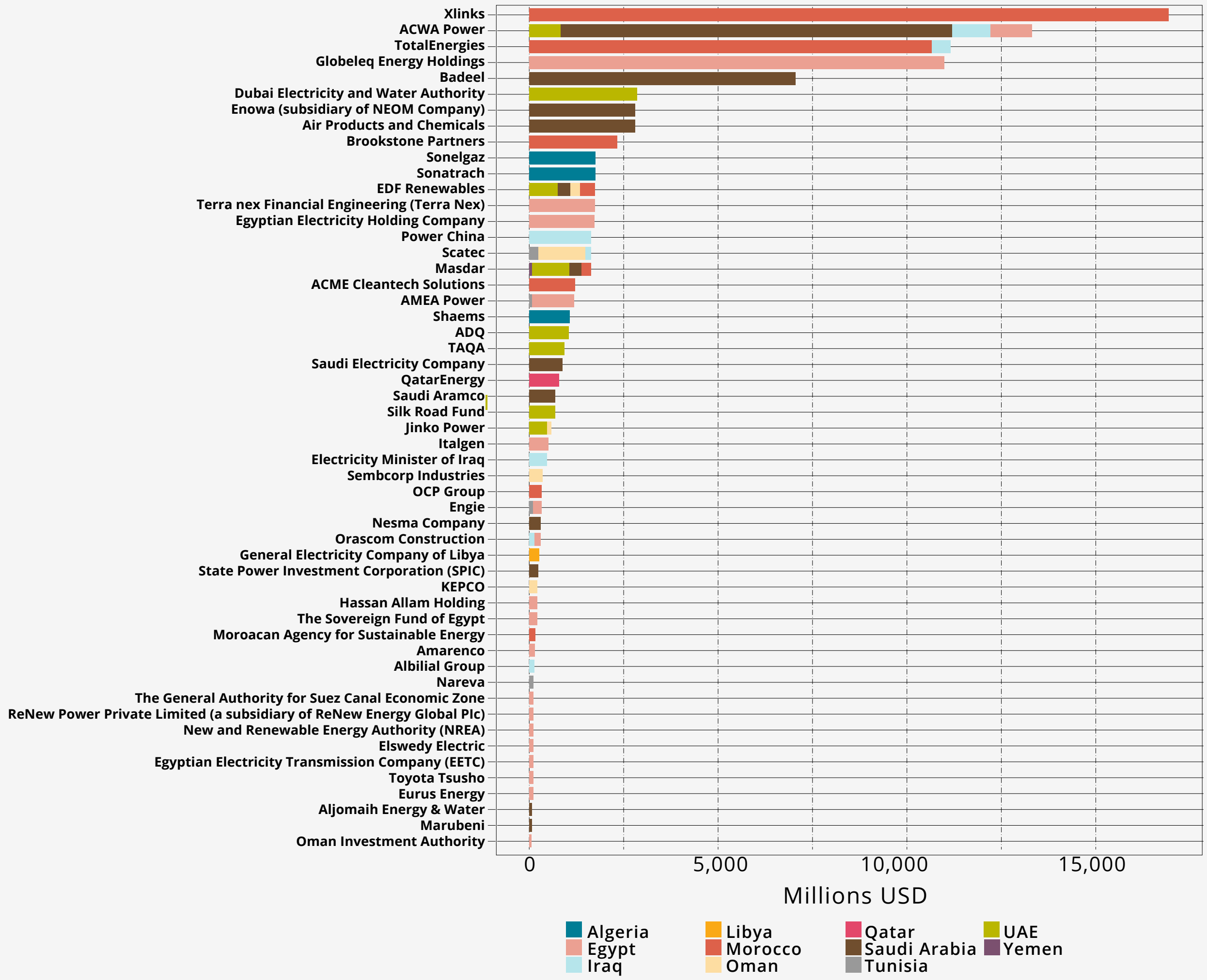
The second-largest investor across the region is ACWA Power, which is 44%-owned by the Saudi SWF and invested 13 billion USD in projects in various countries, mainly in Saudi Arabia (10 billion USD). As explained below, ACWA Power is one of the leading actors in the MENA energy transition. Considering ACWA Power, Badeel, and other related companies, PIF holds approximately 21 billion USD in equity investments, establishing itself as the largest investor in renewables in the MENA region.

[203] "Jorf Lasfar LNG Terminal Phase 1 PPP," IJGlobal, 7 February 2020, share.mayfirst.org/s/qyQWMm7CcZJxM7M.

[204] "ACWA Power Sukuk 2023," IJGlobal, 10 July 2023, share.mayfirst.org/s/JDMDAbjN9aiNEZN.

[205] ACWA Power, "Acwa Power's Sukuk Programme Achieves Record Competitive Pricing In Saudi Arabia With 2.2.X Oversubscription,"

Figure 34. Equity investors in MENA renewable projects (2022-26)



Source: Empower, with data from APICORP.

Total identified equity for gas power projects amounted to 35 billion USD between 2022-26. In contrast to renewables, gas power is predominantly financed by public institutions, including but not limited to SWFs and related companies. It is notable that the largest equity investors for gas power are State entities in Morocco and Libya.

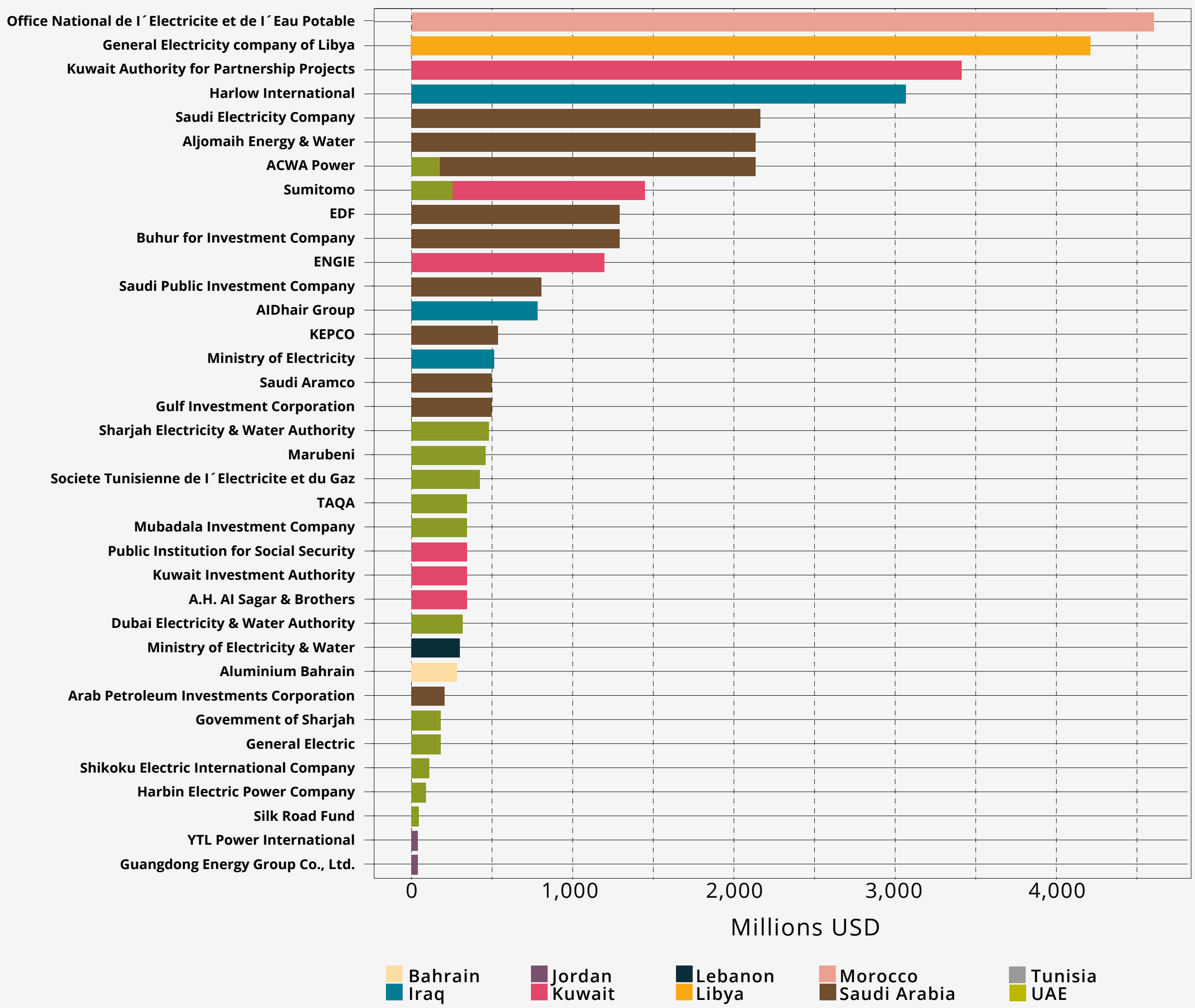
In the case of Morocco, this is attributable to the 2,400 MW Jorf Lasfar CCGT power station, which is part of a larger project that includes an LNG terminal and has an estimated value of 4.6 billion USD.[203] In the case of Libya, the General Electricity Company of Libya has announced the construction of six power plants with an estimated value of 4 billion USD.

Among these State actors, one SWF in particular plays a pivotal role in gas power financing. Projected equity for PIF, along with its partially-owned subsidiaries ACWA Power and Saudi

www.acwapower.com/news/acwa-powers-sukuk-programme-achieves-recordcompetitive-pricing-in-saudi-arabia-with-22x-over-

Electricity Company, positions this fund as the largest equity investor in gas power. Other SWFs, such as Mubadala, KIA, and ADQ, play a smaller role in projected equity but were more involved in the form of debt emitted by related banking companies (see Figure 35).

Figure 35. Equity investors in MENA gas power projects (2022-26)

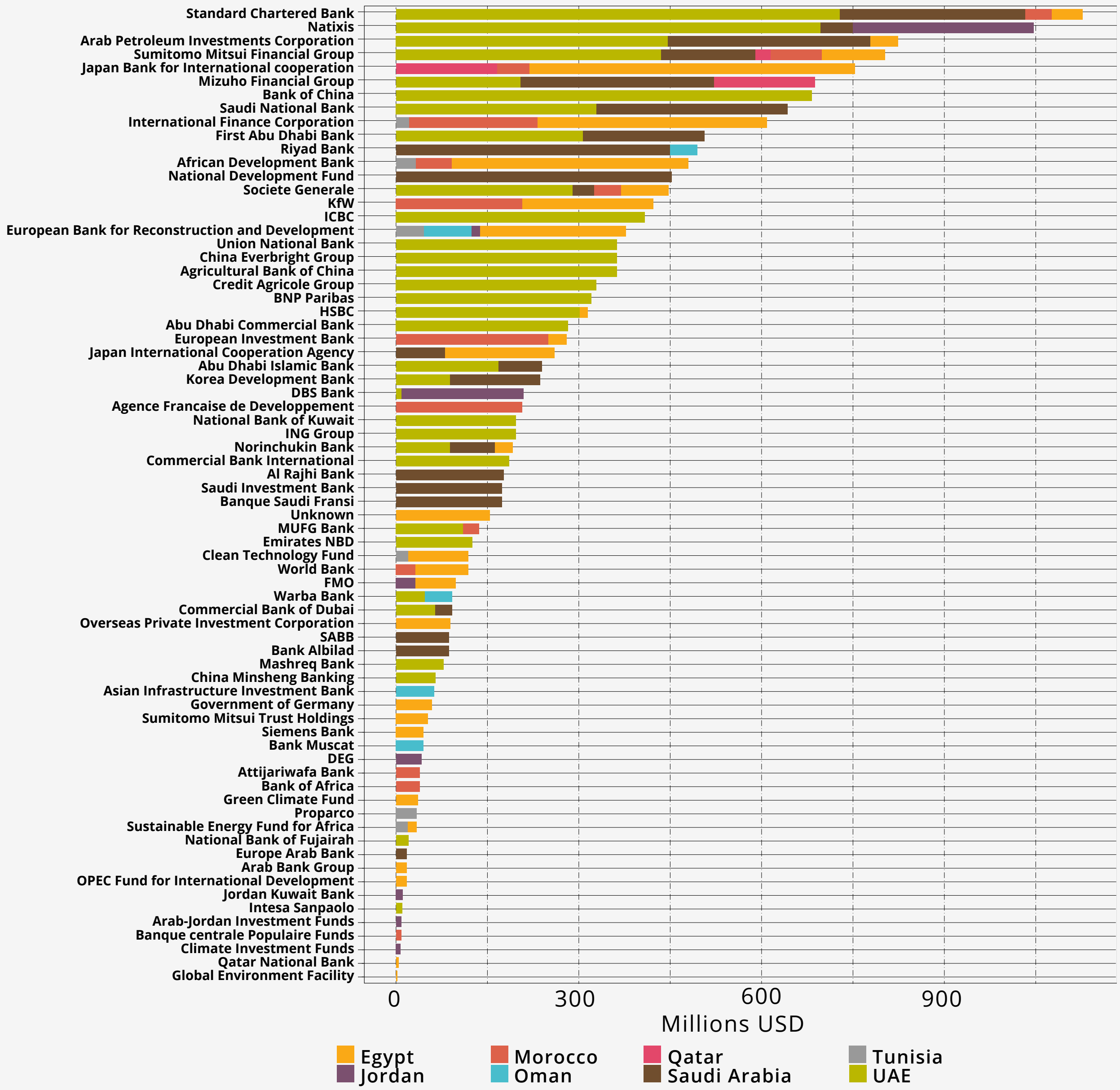


Source: Empower, with data from APICORP.

Empower identified approximately 26 billion USD in emitted debt for financing rene-wable energy projects in the MENA region between 2019-23. The majority of this debt, amounting to 17.6 billion USD, was transferred as loans, while around 8.6 billion USD corresponded to the underwriting of bonds for these projects. As shown in Figure 36, loans for green projects were emitted by a long list of banks, led by Standard Chartered (LSE:STAN) and Natixis, a subsidiary of the French Groupe BPCE.

The UAE attracted the largest amount of debt for green projects, which was provided mainly by Western banks, with an important contribution from State-owned Chinese institutions. Saudi Arabia obtained most of its debt from Saudi institutions, such as Riyad Bank (SASE:1010) — majority-owned by the Kingdom through PIF — and the National Development Fund. On the contrary, North African countries like Egypt and Morocco, which export electricity to Europe, obtained significant financing from international development banks and export credit agencies (ECAs).

Figure 36. Lenders to MENA renewable projects (2019-23)

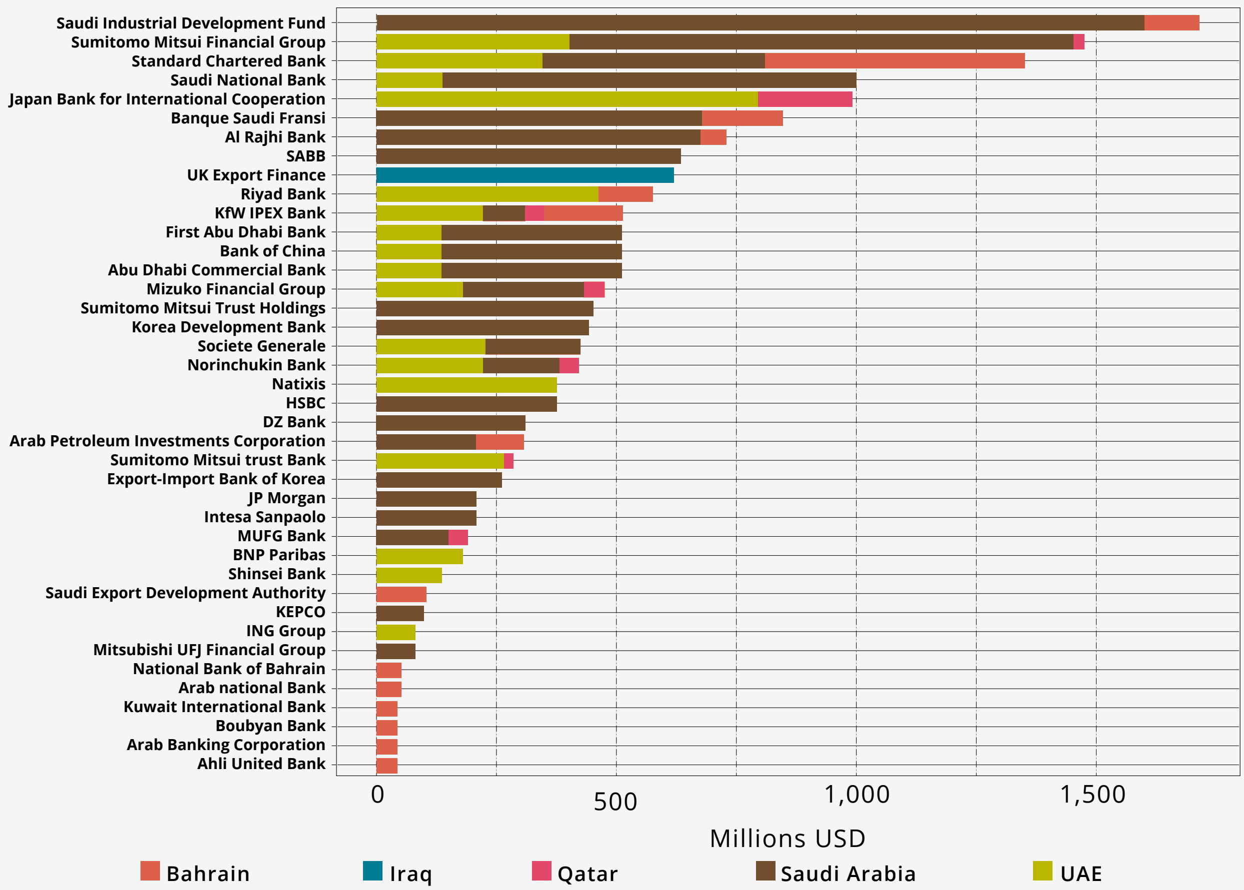


Source: Empower, with data from IJGlobal.

Bonds for renewable projects were underwritten mostly by Western banks, with some involvement from East Asian and, to a lesser extent, MENA institutions. Most bonds were emitted by Saudi Arabian companies, followed by the UAE, as would be expected given these countries' much greater ability to attract international investors.

Empower identified debt of approximately 18 billion USD for gas power financing emitted between 2019-23. Nearly all of this debt, 17.6 billion USD, was provided as loans, while 479 million USD correspond to the underwriting of bonds. Only five countries acquired debt for financing gas power projects (see Figure 37), most of which was allocated to Saudi Arabia and the UAE.

Figure 37. Lenders to MENA gas power projects (2019-23)



Source: Empower, with data from IJGlobal.

Unlike renewable energy, loans for gas power were predominantly sourced from MENA banks, contributing approximately 5 billion USD. Many of these banks are partially Stateowned through their countries' SWFs, which thereby emerge as key players in the financing of gas power in the MENA region. MENA banks were followed by Western and East Asian banks excluding China, which provided around 3.5 billion USD each.

Only one bond issuance for a gas power project was identified for the period 2019-23, issued in 2023 by ACWA Power to finance its acquisition of a 25% stake in Jazan IGCC. [204] The bonds were underwritten by Saudi National Bank and HSBC.[205]

7.2 The role of SWFs

SWFs are emerging as pivotal actors in the MENA energy transition, but they are also key in gas power financing, particularly in those countries with the largest investments in this sector, such as Saudi Arabia, the UAE, and Bahrain. Empower identified investments from nine MENA SWFs (see Table 6), including six of the largest in the region.[206]

Table 6. SWFs financing energy projects in the MENA region

Name	Country	AUM (billion USD)
Kuwait Investment Authority (KIA)	Kuwait	803
Saudi Public Investment Fund (PIF)	Saudi Arabia	776
Qatar Investment Authority (QIA)	Qatar	475
Investment Corporation of Dubai (ICD)	United Arab Emirates	320
Mubadala Investment Company (Mubadala)	United Arab Emirates	287
Abu Dhabi Developmental Holding Company (ADQ)	United Arab Emirates	159
Oman Investment Authority (OIA)	Oman	46
Bahrain Mumtalakat Holding Company (Mumtalakat)	Bahrain	18
Sovereign Fund of Egypt (SFE)	Egypt	11.9

Source: Sovereign Wealth Fund Institute, 2023.

SWFs are State-owned entities responsible for managing government assets and surpluses which, in the Gulf countries, come primarily from fossil fuel revenues. Most SWFs have the mandate to grow and diversify their portfolio in order to build larger funds for future generations and to promote the diversification of their countries' economies. Following these goals, SWFs are expanding their portfolios through acquisitions and alliances with Western companies. As part of this effort, Gulf SWFs are aiming to build a greener image and expand international influence by investing in renewables, sports, and gaming, as well as participating in global organizations like the One Planet SWF Initiative.[207]

subscription.

[206] The largest SWF in MENA is the Abu Dhabi Investment Authority (ADIA), owned by the United Arab Emirates, with 853 billion USD in assets. See: John Calabrese, "The new wave of dealmaking by Gulf sovereign wealth funds," Middle East Institute, 20 July 2023, www.mei.edu/publications/new-wave-dealmaking-gulf-sovereignwealth-funds.

[207] One Planet SWF Network, oneplanetswfs.org.

[208] *Ibid*.

[209] The Saudi Public Investment Fund, for example, has signed an agreement with the Japan Bank for International Cooperation on the transition to renewable energy and Saudi Arabia hired BlackRock to advise a new 53 billion USD fund dedicated to infrastructure projects in 2021.

The One Planet SWF initiative is an international organization founded in 2017 that will soon be based in Paris and is composed of SWFs — including five from MENA —, asset managers, and private equity funds. These private actors include some of the MENA funds' most prolific co-investors, such as BlackRock. The organization's objective is to contribute to achieving the goals of the Paris Agreement by "increas[ing] the efficiency in global capital allocation."[208] The group has been promoted by French President Emmanuel Macron and its last annual meeting was hosted by figures such as John Kerry, U.S. special presidential envoy for Climate, and Ajay Banga, World Bank president.

SWFs in the region are looking to scale up their investments with various partnerships from other public and private funds as co-investors. Therefore, SWFs may be vulnerable to pressure through these co-investors, given that many deals depend on large amounts of capital from both.[209] According to the industry-funded Al-Attiyah Foundation, "in the medium-term, hydrocarbon assets will continue to dominate energy portfolios of GCC-based SWFs such as ADIA, Mubadala, KIA, and QIA," exposing those funds to "physical risk, transition risk, and liability risk from the ongoing energy transition and climate change."[210]

It is worth noting that another organization known as the International Forum of Sovereign Wealth Funds, spearheaded by the International Monetary Fund (IMF), has promoted an agenda known as the Santiago Principles, which include an agreement to "make independent investment decisions, rather than taking direction from government."[211] While this should be taken with a grain of salt — and PIF, among other funds, is not a member — using international forums to push certain MENA SWFs to allocate capital to greener investments and away from fossil fuels may provide more realistic, if modest, points of entry for civil society than other attempts at influencing State investment in the region.

There is increasing recognition that the huge pools of capital held by SWFs are vital to the energy transition, and reporting from COP28 suggests that there may be some openness by funds to move more aggressively, despite recent stagnation in climate-related capital commitments. "Sources at the wealth funds, speaking on condition of anonymity because they were not authorised to speak publicly, say that internally, they see increasing value in trying to green their portfolios, and even reach net zero."[212] Bernardo Bortolotti of the Milanbased Sovereign Investment Lab at Bocconi University, notes that such an effort would require "a coordinated effort by larger institutional investors, including sovereign wealth funds and major pension funds."[213]

[210] Al-Attiyah Foundation, "The Role of Sovereign Wealth Funds in Energy," November 2021, www.abhafoundation.org/media-uploads/reports/Energy_Report_Issue_63_11_2021_November_Print.pdf.

[211] Libby George and Hadeel Al Sayegh, "Sovereign wealth funds struggle to turn their trillions to climate finance," *Reuters*, 6 December 2023, www.reuters.com/sustainability/sustainable-finance-reporting/sovereign-wealth-funds-struggle-turn-theirtrillions-climate-finance-2023-12-06.

[212] *Ibid*.

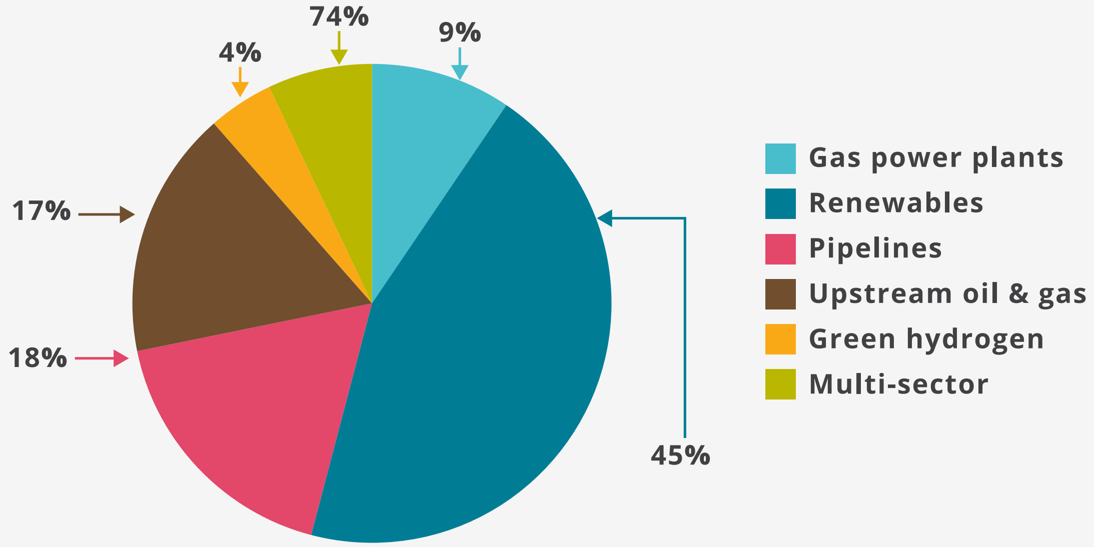
[213] *Ibid*.

[214] PIF, "Green Finance Framework," February 2022, www.pif.gov.sa/Investors%20Files%20EN/DNV%20Second%20Party%20Opinion.pdf, p. 1.

[215] TAQA, "TAQA, ADNOC and Mubadala Enter Binding Agreements for Acquisition of Masdar Stake," 21 June 2022, www.taqa.com/

Empower identified approximately 73 billion USD of financial flows from nine SWFs toward energy power projects in the MENA region between 2019-26. These capital flows encompass projected and executed equity from SWFs or companies that they manage, as well as debt emitted by SWF-affiliated banks acting as lenders and bond underwriters. Approximately half of these flows were allocated to renewable energies and hydrogen and the other half to fossil fuel financing (see Figure 38).

Figure 38. Distribution of projected and executed energy finance by MENA SWFs (2019-26)

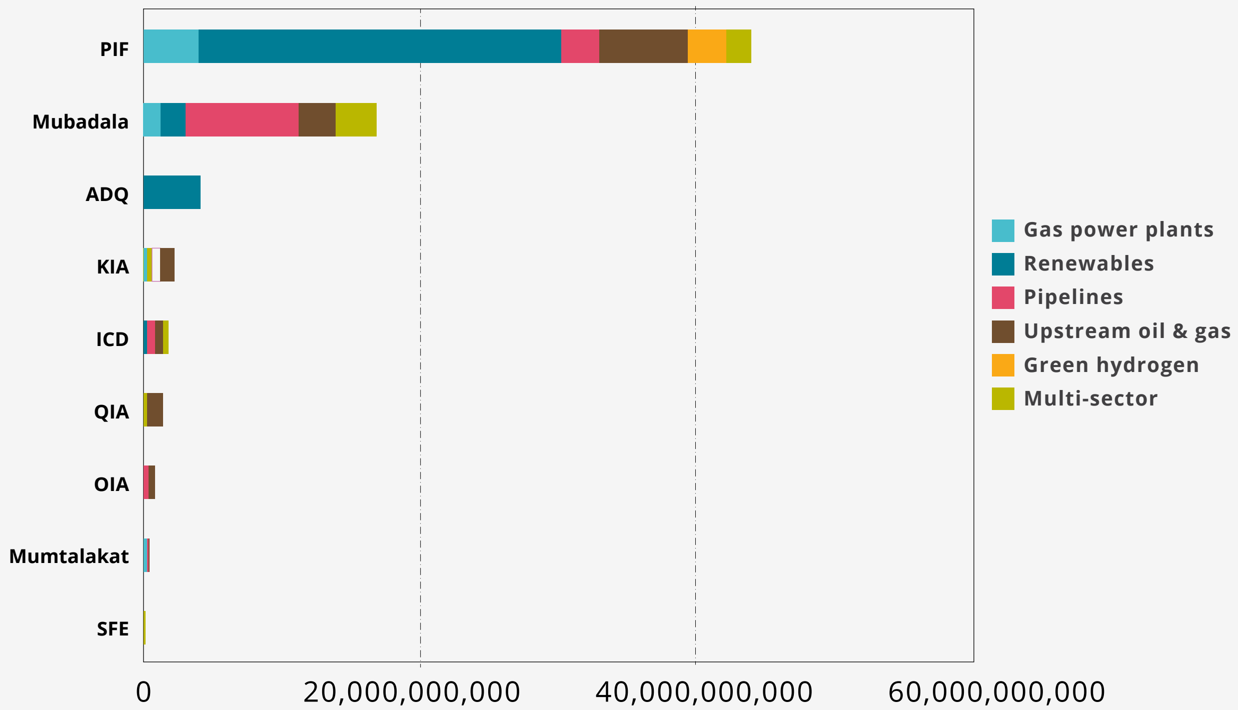


Source: Empower, with data from APICORP and IJGlobal.

While almost half of SWF money went to renewables in the region, these proportions are heavily skewed by one fund. In fact, only two funds dedicated more than 11% of their projected capital commitments to renewables (see Figure 39).

In general, around 90% of identified financing came from three SWFs: PIF, from Saudi Arabia, and Mubadala and ADQ, both from Abu Dhabi. These SWFs play a pivotal role in the MENA region's energy map and have been positioned as leaders in their countries' energy transition. Unlike other SWFs in the region, these funds have significant stakes in their countries' key energy companies. Additionally, they are shareholders of some of the largest banks in the Gulf region.

Figure 39. SWF financing of MENA energy projects by sector, USD (2019-26)



Source: Empower, 2023.

The most important SWF was Saudi Arabia's Public Investment Fund (PIF), contributing approximately 44 billion USD. PIF is committed to developing 70% of the 58.5 GW of renewable energy targeted by the Saudi Arabian Vision 2030 program.[214] Nearly 60% of identified financial flows from the fund were directed towards renewable energy. However, it holds controlling stakes in Saudi Arabia's largest electricity companies, Saudi Electricity Company and ACWA Power Company, both of which continue using gas power. Through these companies and their related banks, PIF invested around 4 billion USD in 12 gas power plants, four of them in pre-construction.

After PIF, the next largest amounts corresponded to Abu Dhabi's funds: Mubadala, with 17 billion USD, and ADQ, with 3.9 billion USD. In 2022, the Government of Abu Dhabi unified the green divisions of its three largest energy companies — Masdar, ADNOC, and TAQA — under the name of Masdar. After this transaction, ADQ and Mubadala emerged as the major shareholders of Masdar, which has become the largest green energy company in the UAE. Masdar is expected to lead the UAE's energy transition by increasing renewable energy capacity in the emirates by 100 GW and producing 1 million tons of green hydrogen by 2030.[215]

press-releases/taqa-adnoc-and-mubadala-enter-binding-agreements-for-acquisition-ofmasdar-stake; and, Masdar, "Green Finance Report 2022," masdar.ae/-/media/corporate%20revamp/downloads/investors/Masdar%20GFF%20Allocation%20and%20Impact%20Report%202022.pdf, p. 3.

[216] Global Energy Monitor, "MENA grows renewables by half but clings to risky hydrogen and gas," September 2023, globalenergymonitor.org/wp-content/uploads/2023/08/MENA-grows-renewables-by-half-GEM.pdf, p. 10.

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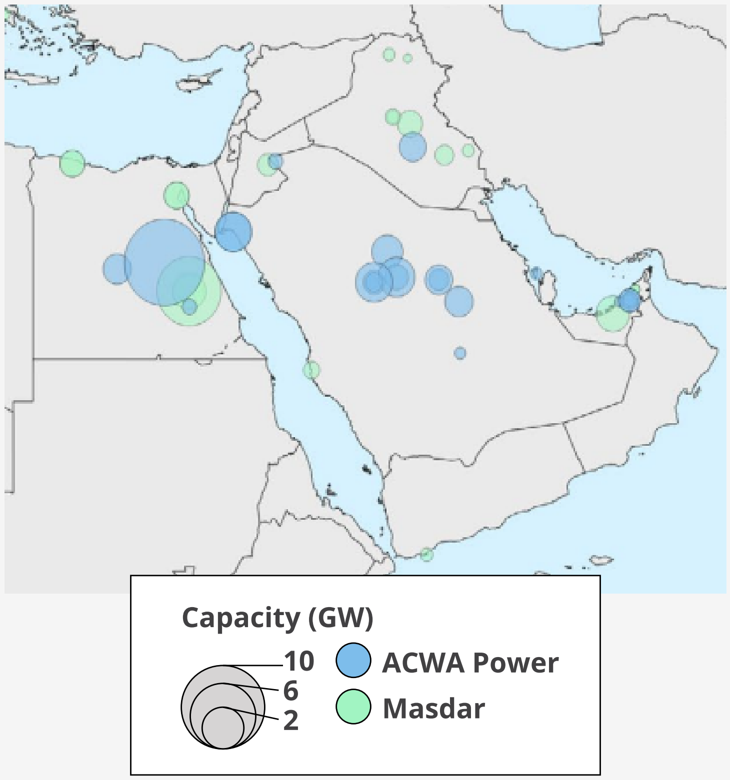
ACWA Power and Masdar are leaders of the energy transition in MENA. They already own 5 GW in solar and wind assets and are currently engaged as owners, developers, or operators in the development of 14 GW in the region.[216]

Map 9. Wind and solar projects under development by ACWA Power and Masdar in the MENA region (2023)



Source: Global Energy Monitor.[217]

According to data compiled for this research, both Mubadala and ADQ play a less important role in financing gas power development than in green energies. However, these SWFs own energy companies that have not committed to stop using gas in their energy plants, such as Mubadala Energy and TAQA, so more investments in this sector could be expected.

Saudi Arabia and UAE's funds are tightly controlled by the ruling families, with direct involvement in their boards and key leadership positions held by individuals trusted by their crown princes. The most notable figures in are Yasir Bin Othman Al-Rumayyan, head of PIF, and Tahnoun Bin Zayed Al Nahyan, who leads ADQ. The former, a trusted lieutenant of Prince Mohammed Bin Salman Al Saud (MBS), not only leads PIF, but also holds significant roles in key Saudi Arabian companies such as Saudi Aramco. He has served as a board member in Western companies like SoftBank Group (TSE:9984) and Uber Technologies (NYSE:UBER). Tahnoun Bin Zayed Al Nahyan,

[217] *Ibid.*

[218] ICD, "Sustainable Finance Framework," 2022, www.dib.ae/docs/default-source/disclosures/dib-sustainablefinance-framework-2022.pdf, p. 10.

a brother of Mohammed bin Zayed Al Nahyan (MBZ), ruler of Abu Dhabi and president of the UAE, occupies various positions in the UAE's private and public sectors. He serves as the chair of ADQ and ADIA — Abu Dhabi's largest SWF — as well as the chair of the Royal Group, a private firm controlled by the royal family with interests in the energy sector.

The remaining studied SWFs have less involvement in their countries' energy landscapes. In certain cases, such as QIA and OIA, no financing for gas power was identified, despite these funds managing crucial energy companies in their respective countries. For example, QIA oversees the Qatar Electricity and Water Company (DSM:QEWS) and OIA manages OQ, the national oil company of Oman. It should be noted that in most Gulf countries, State entities are responsible for the bulk of gas power investment but not necessarily though SWFs.

Some of the funds that have directed more capital towards gas power have strategically divested from their major oil and gas assets, aiming to enhance their image as green companies. Nevertheless, these assets are usually transferred to their respective governments or other State-owned companies, which continue to direct revenues to SWFs.

Many SWFs continue to finance gas power projects through their related companies. For instance, Mubadala, recognized as one of the greener SWFs in MENA, directed approximately 1.4 billion USD towards gas power plants. The majority of this funding was facilitated through First Abu Dhabi Bank (FADB) and Abu Dhabi Commercial Bank (ADCB), in which Mubadala holds major stakes. SWF-related banks typically have more lax green finance frameworks and face less public scrutiny regarding their investments in fossil fuels than do the funds themselves or their portfolio energy companies. Some exceptions, such as the Dubai Islamic Bank (DFM:DIB), with a finance framework that explicitly excludes the financing of coal or gas power generation,[218] could be models for in advocating for stricter green finance principles across MENA financial institutions.

It is worth noting that major Gulf SWFs maintain close relationships with the largest global asset managers and private equity firms. For example, PIF holds large minority stakes in BlackRock and Apollo, and has cooperation agreements with BlackRock in the infrastructure sector.[219] In 2020, Mubadala and Apollo created a 12 billion USD fund for large-scale direct lending.[220] Meanwhile, KIA is the second-largest shareholder of BlackRock and Bader AlSaad, head of KIA for over a decade, is currently a member of BlackRock's board.

These partnerships are key for funds' growth strategies as they facilitate international investment in Gulf countries and their own expansion in global markets, particularly in private capital. For instance, in November 2023, during COP28 in Dubai, BlackRock, Brookfield Asset Management, and TPG announced the creation of Altérra, a private fund of an initial 30 billion USD from the UAE that hopes to raise 250 billion USD by 2030 to invest in climate initiatives. Altérra will be managed by Lunate Capital, an investment management firm that is partially owned by Chimera

[219] "Saudi Wealth Fund, Blackrock Sign MoU For Infrastructure Investment," *Forbes*, 14 November 2022, www.forbesmiddleeast.com/industry/economy/saudi-pif-blackrock-ink-non-binding-mou-to-exploreinfrastructure-investment.

[220] Apollo, "Apollo Forms 'Apollo Strategic Origination Partners' Focused on Large-Scale Direct Lending," 6 July 2020, www.apollo.com/insights-news/pressreleases/2020/07/apollo-forms-apollo-strategic-originationpartners-focused-on-large-scale-direct-lending-123044435.html.

[221] Altérra, www.alterra.ae; "UAE to launch $30bn investment fund at COP28," *Financial Times*, 20 November 2023, www.ft.com/content/fbe6e38b-4808-480a-ab20-9379fc2a91fd; and, "Abu Dhabi's Chimera, partners launch alternative investor Lunate with over

Investment, in turn controlled by the Royal Group's Tahnoun Bin Zayed Al Nahyan, national security advisor and brother of the UAE president, as well as director of two of the country's SWFs.[221]

Profiles of SWFs in the MENA region, included as Annexes 1-4, provide a snapshot of each fund's key energy investments and portfolio companies, including relevant banks, as well as key individuals and business alliances.

$50 billion in assets under management," Reuters, 15 September 2023, www.reuters.com/world/middle-east/abu-dhabis-chimera-partners-launch-alt-investorlunate-with-over-50-bln-aum-2023-09-15.

222 For reference, in Gulf Cooperation Council countries, 51% of all outstanding "hard-currency" ESG debt (issued in major foreign

8 Islamic financing of MENA energy projects

Islamic debt-like instruments have comprised a small but significant share of the total debt used to finance projects in key energy sub-sectors in MENA between 2019-23. Identified energy financing via bonds or *sukuk* issuance amounts to a total of 58.7 billion USD, with 21.3% corresponding to *sukuk* issuance and 78.7% to bonds.[222] As seen in Table 7, most *sukuk* financing was directed towards the upstream oil and gas sector to projects in Saudi Arabia (6 billion USD) and Bahrain (1.3 billion USD). *Sukuk* financing for renewables amounted to 3.2 billion USD.

Table 7. Energy *sukuk* issuance in MENA (2019-23)

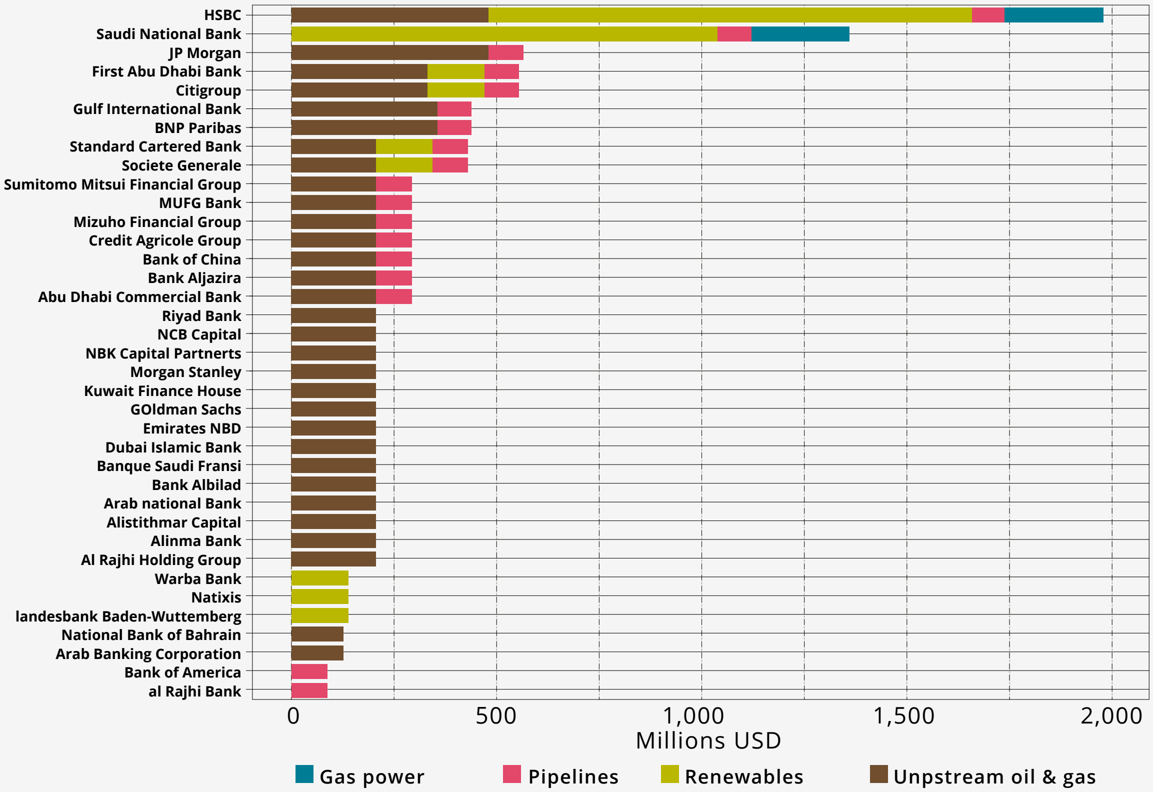
Sector	Total (million USD)	Percentage
Gas power	479.6	3.83
Pipelines	1,499.9	11.98
Renewables	3,190.1	25.48
Upstream oil & gas	7,350.1	58.71

Source: Empower, with data from IJGlobal.

The main underwriters of sukuk issuances were HSBC and the Saudi National Bank (see Figure 40). It is notable that, while *sukuk* underwriting for upstream oil and gas was distributed more evenly between all participating banks, renewable underwriting was largely accounted for by just two banks — HSBC and the Saudi National Bank —, indicating that other banks are not pulling their weight as underwriters in this segment. Though these figures are probably incomplete due to data limitations of the IJGlobal platform, they offer a snapshot of how banks are getting involved in *sukuk* underwriting for the energy sector. As for the exchanges listing these debt instruments, Empower found that approximately 6 billion USD were listed on the London Stock Exchange (LSE) and Frankfurt Stock Exchange, 1.2 billion on the Saudi Exchange (Tadawul), and 1.1 billion USD on Nasdaq Dubai/DFM (see Figure 44).

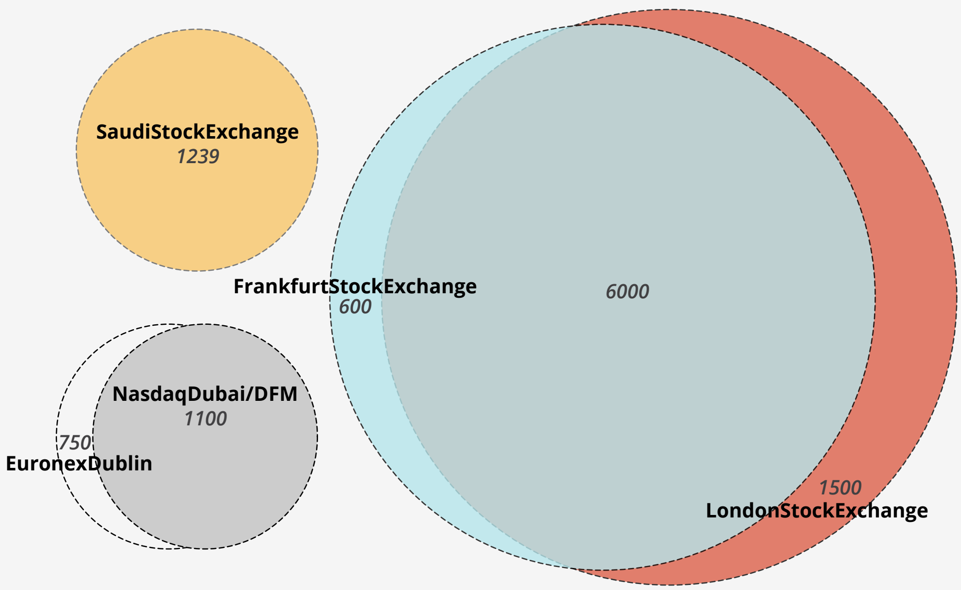
currencies) is composed of *sukuk*. See: Fitch Ratings, "ESG-sukuk Strengthening as Pivot Towards Sustainability Grows," 8 August 2023, www.fitchratings.com/research/non-bank-financialinstitutions/esg-sukuk-strengthening-as-pivot-towards-sustainability-grows-08-08-2023.

Figure 40. *Sukuk* underwriting in MENA (2017-22)



Source: Empower, with data from IJGlobal.

Figure 41. MENA energy sector sukuk issuance by listing exchange (2019-23) [223]

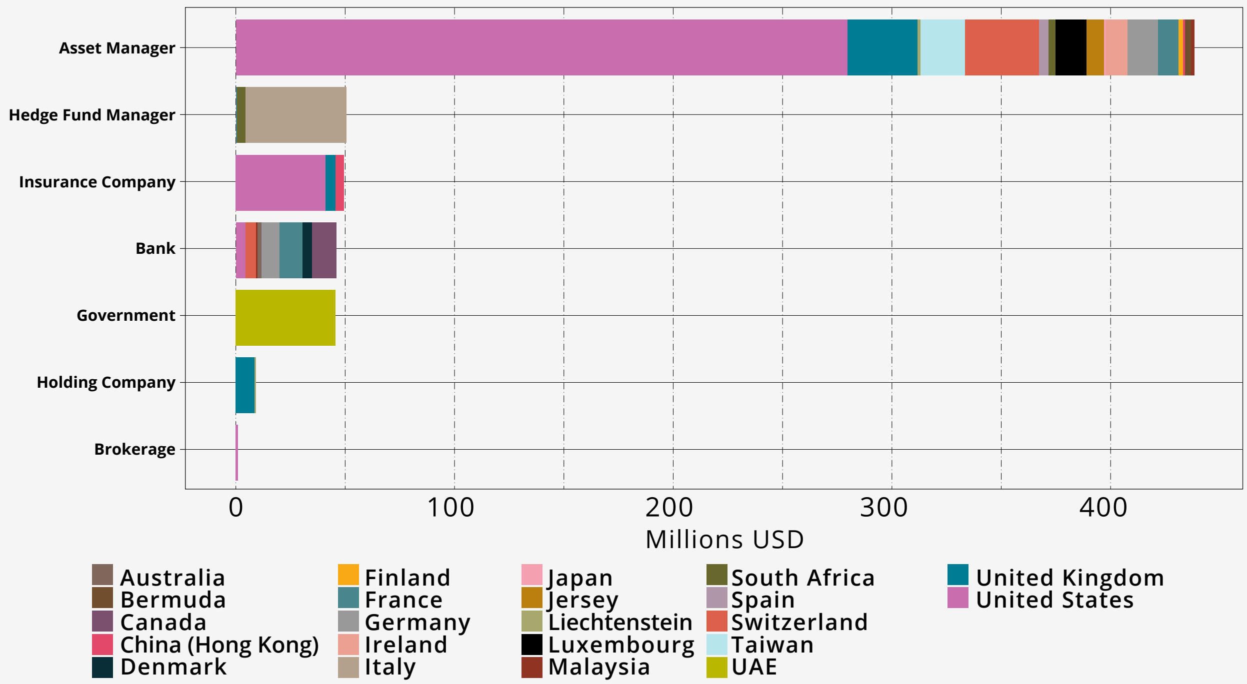


Source: Empower, with data from IJGlobal, Fitch Ratings, and other sources.

[223] Figures include data collected for this research in upstream oil and gas, gas power, major pipeline development, and renewable energy projects.

Despite being a niche financial product, *sukuk* are purchased by many Western, non-Islamic institutions. Analyzing seven large *sukuk* issuances in the MENA energy sector (see Figure 42), Empower found that of 102 institutions that purchased sukuk, most were asset managers, followed by banks, insurance companies, and hedge fund managers. As seen in Figure 45, most buyers were Western institutions, mainly from the U.S., while the only MENA subscribing institution was the Government of Dubai. Vanguard and BlackRock led asset managers, while UBS, JPMorgan Chase, Union Investment (DZ Bank Group), and Crédit Agricole stood out among banks, although most banks purchased bonds through their asset management divisions. It should be noted that many MENA and Southeast Asian institutions are likely missing due to lack of available data from Bloomberg.

Figure 42. Buyers of *sukuk* from select energy sector issuances



Source: Empower, with data from Bloomberg.

Even though data is incomplete, it shows that Western financial institutions commonly purchase *sukuk*. Much of this is presumably for sale or repackaging in Shariah-compliant products and funds they offer to Muslim customers all over the world, but the fact is that these non-Islamic intermediaries ultimately hold large amounts of *sukuk*, just as they do conventional bonds. For more detailed information on some of the buyers of these *sukuk*, see the accompanying spreadsheet "Sukuk holders."

The following sections provide an overview of Islamic finance in MENA countries, considering their geographic footprint, key institutional actors, and green/ESG/sustainability *sukuk* as a rapidly growing segment of the market.

8.1 The Islamic finance industry: background

Islamic finance began in the early 1970s in the Middle East with the opening of Islamic banks. Islamic financial institutions founded during that decade include the Islamic Bank of Development and the Dubai Islamic Bank (1975), the Kuwait Finance House (1977), and the Bahrain Islamic Bank (1979).[224] In the 1980s, a few Western commercial banks, such as Citibank, started getting involved in Islamic transactions and deals.[225] Between 1975-90, Islamic banks matured into a viable alternative to conventional commercial banks.[226] Today, Islamic financial services are offered either through full-fledged Islamic banks or through Islamic branches or windows at conventional banks.[227]

In broad terms, Islamic banking refers to the incorporation of Shariah principles into the industry of banking and financial services. Similar to conventional banks, Islamic banks function as intermediaries between savers and borrowers. Nevertheless the latter are constrained by Shariah, meaning that charging interest (*Riba*),[228] conducting ambiguous transactions (*Gharar*),[229] and acquiring wealth through chance or gambling (*Maysir* or *Qimar*) [230] must be avoided.

Due to the prohibition of *Maysir* and *Gharar*, Islamic banks and financial products reject speculation or risky projects and refrain from participating in illegal activities or financing businesses deemed as negative to society or contrary to Shariah (like production of alcohol, pork, etc.).[231] These restrictions have important consequences in the structuring of banking and financial services. For instance, risk-hedging instruments like futures and options entail Riba and Gharar,[232] while regular insurance schemes combine *Maysir* and *Riba*,[233] thus making these instruments forbidden (*Haram*). Prohibition of interest (*Riba*) does not imply the rejection of the concept of *time value of money* but rather its displacement to real transactions involving tangible assets, in place of loan contracts and money itself.[234] Islamic banks replace profit via interest with a number of profit-sharing instruments and transactions that are underpinned by assets.[235]

[224] Islahi Abdul Azim, *History of Islamic Banking and Finance*, (Intellectual Discourse #26 Special Issue), Kuala Lumpur, 2018), pp. 420-21, proquest.com/docview/2138496865.

[225] Munawar Iqbal and Philip Molyneux, Thirty Years Of Islamic Banking. History (New York: Palgrave MacMillan, 2005), p. 58.

[226] *Ibid*, pgs. 36-7

[227] Evan Tarver, "Islamic Banking and Finance," Investopedia, investopedia.com/terms/i/islamicbanking.asp.

[228] See Munawar Iqbal and Philip Molyneux. Thirty Years Of Islamic Banking. History (New York: Palgrave MacMillan, 2005), pgs. 7-9. See also: Muhammad Ayub, Understanding Islamic Finance (United Kingdom: John Wiley & Sons, 2007), p. 44.

[229] Muhammad Ayub, Understanding Islamic Finance (United Kingdom: John Wiley & Sons, 2007), pgs. 57-8.

[230] *Ibid*, p. 62.

[231] Along with Shahada, Salat, Sawm, and Hajj, Zakat is one of the five pillars of Islam. For further information, see: Saalim Al-Azhari, "Five pillars of Islam," Islamic Relief, islamic-relief.org.uk/resources/knowledge-base/five-pillars-of-islam.

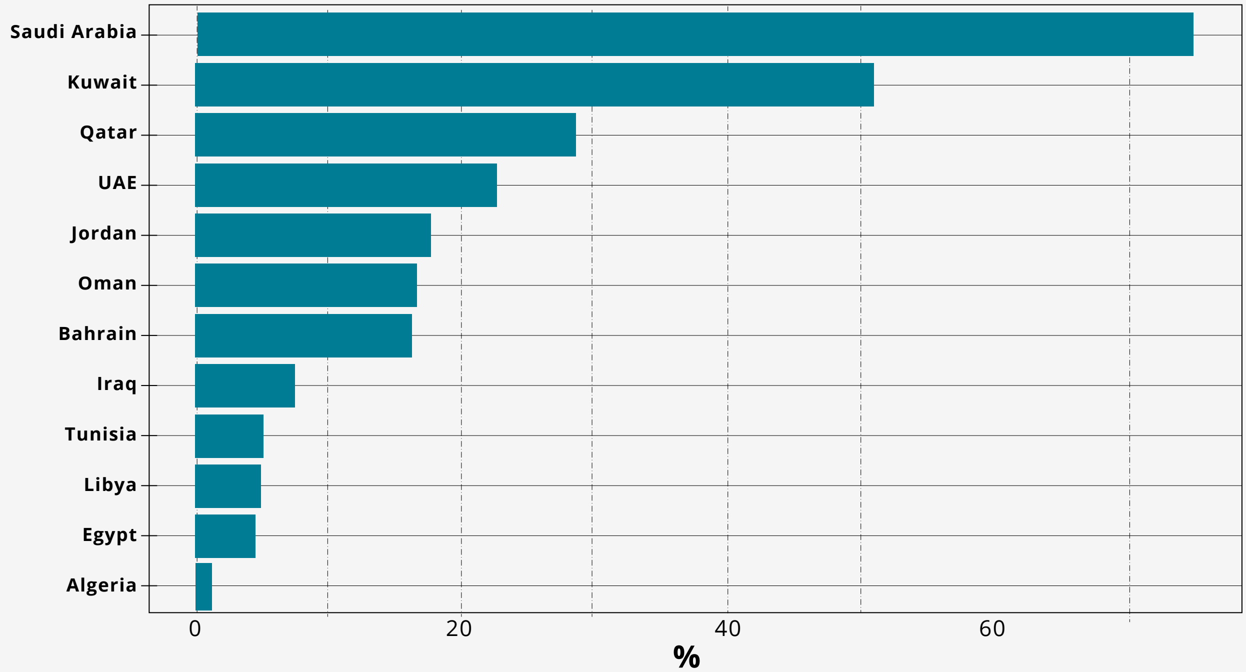
[232] Patrick Imam & Kangni Kpodar, "Islamic Banking: How Has It Expanded?," Emerging Markets Finance and Trade 49, No. 6 (November-December 2013), p. 114, doi.org/10.2753/REE1540-496X490607.

[233] Muhammad Ayub, Understanding Islamic Finance (United Kingdom: John Wiley & Sons, 2007), p. 62.

[234] Patrick Imam & Kangni Kpodar, "Islamic Banking: How Has It Expanded?," Emerging Markets Finance and Trade 49, No. 6 (November-December 2013), p. 113, doi.org/10.2753/REE1540-496X490607.

Islamic banking is still a growing sector, but it already accounts for an important share of the total banking assets in Saudi Arabia, Kuwait, Qatar, and the UAE (see Figure 43). It is also important in non-MENA countries like Malaysia and Indonesia, where it represents 30% and 7.1%, respectively.

Figure 43. Islamic share of total banking assets by country (2022)



Source: Empower, with data from the Islamic Financial Services Board.

From the 1970s through 2019, the Islamic finance industry grew to 2.88 trillion USD globally, though it is important to note that this represents less than 1% of worldwide financial assets.[236]

8.2 Exchanges and arrangers

Sukuk are commonly listed on MENA, Southeast Asian, and Western exchanges. According to data compiled by Empower,[237] some of the exchanges listing *sukuk* are the LSE,[238] Nasdaq Dubai,[239] Irish Stock Exchange (ISE), Dubai Financial Market (DFM), Abu Dhabi Stock Exchange

[235] International Monetary Fund, "Islamic Finance and the role of IMF," February 2017, imf.org/external/themes/islamicfinance. Because of this, some scholars theoretically characterize the Islamic banking system as an equity-based system, in opposition to the conventional debt-based system. Muhammad Ayub, Understanding Islamic Finance (United Kingdom: John Wiley & Sons, 2007), p. 197.

[236] Asian Development Bank, "Unlocking Islamic Climate Finance," 2022, p. 3, adb.org/sites/default/files/publication/838201/unlocking-islamic-climate-finance.pdf.

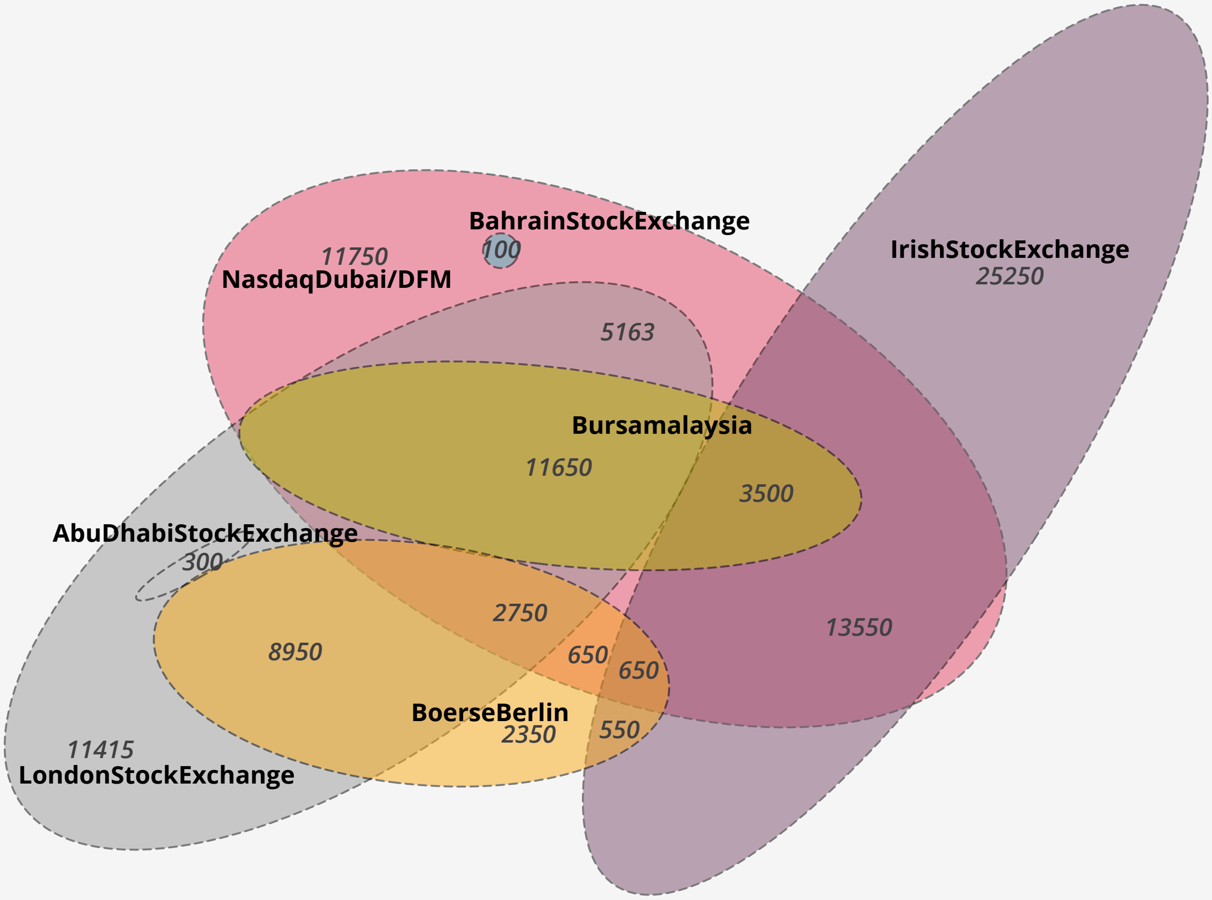
[237] Original data is from the Islamic Finance Foundation's *sukuk* database, which covers 247 general purpose *sukuk* issuances between 2004-21, amounting to nearly 172 billion USD. This data is publicly available on its website: sukuk.com. For this section, Empower only considered 118 issuances amounting to 105 billion USD from the following MENA countries: Bahrain, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates.

[238] London Stock Exchange, "Sukuk," www.londonstockexchange.com/raise-finance/debt/our-products/sukuk

[239] Nasdaq Dubai, "Sukuk & Islamic Products," nasdaqdubai.com/products/sukuk.

(ADX), Bahrain Bourse,[240] Berlin Boerse, and Bursa Malaysia.[241] Figure 44 shows the importance of three exchanges in particular for the *sukuk* market: between 2004-21, some 11.4 billion USD were listed exclusively on the LSE, 25 billion USD on the Irish Stock Exchange, and 11.7 billion USD in Nasdaq Dubai/DFM. Taking into account both single and dual *sukuk* listings, 44.6 billion USD were listed on Nasdaq Dubai/DFM, 43.5 billion USD on the Irish Stock Exchange, and 40.2 billion USD on the LSE. Multiple listings are represented in Figure 44 as overlap between exchanges.

Figure 44. MENA countries *sukuk* issuance by listing exchanges (2004-21)



Source: Empower, with data from the Islamic Finance Foundation.

The UK has played a key role in the development of the *sukuk* market. Some milestones achieved by the LSE between 2007-15 include the first London-listed *sukuk* issued by the Dubai Islamic Bank (2007); listing of the first sovereign *sukuk* issuance by the Central Bank of Bahrain (2008);

[240] Bahrain Bourse, “Bonds and Sukuk,” bahrainbourse.com/en/Quotes%20and%20Market/DebtSecurities/bonds-and-sukuk.

[241] Bourse Malaysia, “Exchange Traded Bonds and sukuk,” bursamalaysia.com/trade/our_products_services/bonds/exchange_traded_bonds_and_sukuk.

[242] London Stock Exchange, "Islamic finance on London Stock Exchange," www.islamicfinance.com/wpcontent/uploads/2017/02/Islamic-Finance-Presentation.pdf. p. 5.

listing of the first *sukuk* issued by a major US firm (GE Capital in 2009); and listing of the first *sukuk* issued by a Western government (UK Government in 2014).[242] As for the Irish Stock Exchange, some financial analysts note that it had a strong reputation among *sukuk* issuers for "its expertise, cost and speed of listings."[243] In 2018, the ISE merged with Euronext Dublin[244] and it is still listing *sukuk*. Currently, the LSE remains a key Western hub for international *sukuk* listings,[245] and has been involved in green and sustainable *sukuk* initiatives like the High-Level Working Group on Green *Sukuk* (HLWG).

However, MENA stock exchanges have also become important in recent years; Nasdaq Dubai and DFM outgrew the LSE and ISE in 2015, following the decision by Sheikh Mohammed bin Rashid al-Maktoum in 2013 to turn Dubai into a leading Islamic finance center. This strategy triggered a dramatic increase in Dubai's *sukuk* listings, from 7 billion USD in 2013 to 36.7 billion USD in 2015.[246] Though it does not appear in Figure 44 and did not fully open to international investors until 2015,[247] Saudi Arabia's Tadawul has turned into one of the world's largest exchanges[248] over the last eight years as result of the country's Financial Sector Development Program.[249] As part of this initiative, in 2017 Saudi Arabia launched the *Sukuk* Issuance Program, a plan to meet the country's financial needs while simultaneously supporting its national *sukuk* market by issuing debt instruments denominated in Saudi riyals. In 2018, the Saudi government, under the same program, established the Primary Dealers Program to increase demand for *sukuk* by appointing five financial institutions[250] to buy *sukuk* directly from the government and place these securities in the secondary market.[251] This arrangement seems to explain why Saudi Arabia has been a

[243] Simon O´Neall, "Competition to Attract Issuers of sukuk," LinkedIn, linkedin.com/pulse/competition-attractissuers-sukuk-simon-o-neill.

[244] "Company that acquired Irish Stock Exchange grows revenue 1.8% in second quarter," *The Irish Times*, 31 July 2019, www.irishtimes.com/business/markets/company-that-acquired-irish-stock-exchange-growsrevenue-1-8-in-second-quarter-1.3973509.

[245] Fitch Ratings, "UK Maintains Islamic Finance Western Hub Status, Despite Domestic Niche," 20 June 2023, www.fitchratings.com/research/islamic-finance/uk-maintains-islamic-finance-western-hub-status-despitedomestic-niche-20-06-2023.

[246] "Dubai plans new sukuk channels as listings top other centres," *Reuters*, 2015, www.reuters.com/article/2015/07/09/emirates-dubai-sukuk-idUSL8N0ZO4CX20150709.

[247] It was only after 2007 that the Tadawul was opened to nationals from other countries in the Gulf, and foreign financial institutions were not allowed to participate until after 2015. See: Islamic Research and Training Institute, "Islamic Finance in Saudi Arabia: Leading the Way to Vision 2030," p. 51.

[248] The press reported that Tadawul entered the Top 10 largest global exchanges by market capitalization in 2019, but reports from 2023 rank the Saudi Exchange at 11th place worldwide by the same measure. See: Ashraq Al Awsat, "Tadawul Ranks Among Top 10 Largest Global Exchanges," english.aawsat.com/home/article/2364676/tadawul-ranks-among-top-10-largest-global-exchanges; and Ramiss Chema, "21 Largest Stock Exchanges in the World," finance.yahoo.com/news/21-largest-stockexchanges-world-154737743.html?guccounter=1.

[249] A key element from Saudi Vision 2030, a set of governmental programs for the Kingdom of Saudi Arabia that began in 2017. See: Financial Sector Development Program, "Kingdom of Saudi Arabia Vision 2023," www.vision2030.gov.sa/en/vision-2030/vrp/financial-sector-development-program.

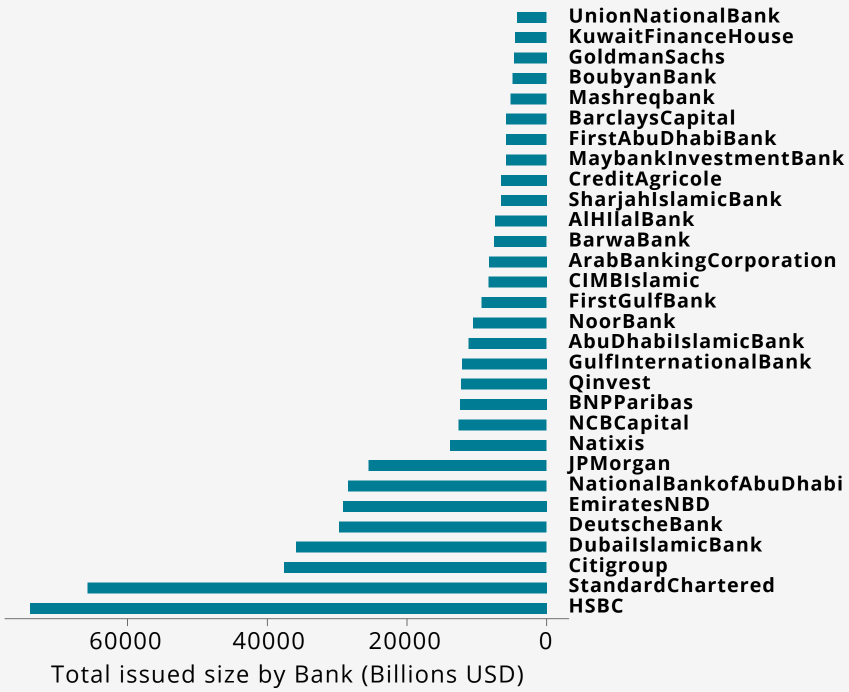
[250] The banks appointed as primary dealers were Alinma Bank, Bank Aljazira, Samba Financial Group, the National Commercial Bank, and the Saudi British Bank. However, in light of Saudi Vision 2030 and its Financial Sector Development Program, a second group of financial institutions joined the Primary Dealers Program in 2022. These institutions were BNP Paribas, Citigroup, Goldman Sachs, JP Morgan, and Standard Chartered Bank. See: "Saudi Arabia launches Primary Dealers Program," *Saudi Gazzete*, 2017 saudigazette.com.sa/article/539879/SAUDI-ARABIA/Ministry-of-Finance-announces-launch-of-PrimaryDealers-Program. See also: National Debt Management Center, "Five International Financial Institutions Join the Primary Dealers Program of the Government's Local Debt Instruments," ndmc.gov.sa/en/mediacenter/news/Pages/News_03102022.aspx.

[251] Islamic Research and Training Institute, "Islamic Finance In Saudi Arabia: Leading the Way to Vision 2030," p. 61. Available upon request at: isdbinstitute.org.

leading sovereign *sukuk* issuer within the MENA countries but also in the global *sukuk* market,[252] in which it ranked first in 2022, surpassing Malaysia and Indonesia.[253] In Qatar, it was reported in 2022 that the country is working to become a worldwide *sukuk* hub, as the government is easing initiatives on Islamic products and banking, and universities are training more professionals in Islamic finance.[254]

Regarding specific financial institutions, the top identified underwriters in *sukuk* issuances across all sectors between 2004-21 were Western banks HSBC, Standard Chartered, and Citibank, while other Western issuers included JPMorgan Chase, Natixis, BNP Paribas, Credit Agricole, Barclays Capital, and Goldman Sachs. Some of these institutions are members of the aforementioned Primary Dealers Program in Saudi Arabia.[255] The most important regional and Islamic institutions participating as arrangers were the Dubai Islamic Bank, Emirates NBD, and National Bank of Abu Dhabi, followed by many others (see Figure 45).

Figure 45. *Sukuk* arrangers in MENA, all sectors (2004-21)



Source: Empower, with data from the Islamic Finance Foundation.

[252] Islamic Corporation for the Development of the Private Sector & Refinitiv, "Islamic Finance Development Report 2022: Embracing Change," 2022, p. 46, share.mayfirst.org/s/pCgJp2cJQTRiBiz.

[253] Islamic Financial Services Board, "Islamic Financial Services Industry Stability Report," 2023, p. 53.

[254] John Deepak, "Qatar plans to be Islamic sukuk hub," *The Peninsula*, 10 February 2022, thepeninsulaqatar.com/article/10/02/2022/qatar-plans-to-be-islamic-sukuk-hub.

[255] HSBC, Standard Chartered, JP Morgan, Goldman Sachs, Citi, and BNP Paribas.

8.3 Green *sukuk* and green bonds

Some asset managers deem Islamic finance a form of ethical investing, as its key principles are to use money in order to help society.[256] The moral and ethical principles of Shariah-compliant finance can overlap with and complement ESG investment in many cases.[257] According to a Refinitiv survey in 2022, nearly 54% of interviewed investors had integrated ESG criteria in their Shariah-compliant portfolios[258] and 74% of them viewed ESG *sukuk* as a significant trend in the *sukuk* market, positioning green and sustainability *sukuk* as a potential driver of the Islamic finance industry.[259] In light of the green and ESG *sukuk* trend, recent years have seen the first green issuance taking place in some MENA countries. For instance, in September 2020, the Qatar National Bank issued a 600 million USD green sukuk, making it the first Qatari issuer of green *sukuk*.[260] In March 2022, Infracorp became the first Bahraini issuer with a green *sukuk* issuance of 900 million USD.[261] Meanwhile, a typology of ESG-like *sukuk* has emerged within the industry, as follows:[262]

- *Green sukuk*: Issued to fund projects that have a positive environmental impact, such as renewable energy, clean transportation, sustainable water, and waste-water management.
- *Social sukuk*: Aimed at financing positive social impact projects like affordable basic infrastructure, affordable housing, and employment generation.
- *Sustainability sukuk*: Issued to fund combinations of green and social projects.
- SDG *sukuk*: Issuance depends on the issuer's commitment to ESG targets related to the UN Sustainable Development Goals. The obtained proceeds may be used for general purposes as long as they help achieve the stated targets.

[256] HSBC, "HSBC Islamic Global Equity Index Fund: Introducing Islamic Investment Principles," 31 March 2023,, assetmanagement.hsbc.co.uk/en/institutional-investor/capabilities/equities/islamic-global-eq-index-fund.

[257] London Stock Exchange, "Sukuk Perception and Forecast Study 2021: Thriving Amidst Uncertainty," webbinar, solutions.lseg.com/sukukAPPWebinar

[258] Refinitiv, "Green and Sustainability Sukuk Report 2022: Financing a Sustainable Future," 2022, p. 10, share.mayfirst.org/s/7z-RYkafKHfGnc4E

[259] London Stock Exchange, "Sukuk Perception and Forecast Study 2021: Thriving Amidst Uncertainty," webbinar, solutions.lseg.com/sukukAPPWebinar.

[260] HLondon Stock Exchange, "London Stock Exchange welcomes Qatar National Bank celebrating its inaugural sustainable Green Bond," 23 September 2020, londonstockexchange.com/discover/news-and-insights/london-stock-exchange-welcomes-qatar-nationalbank-celebrating-its-inaugural-sustainable-green-bond.

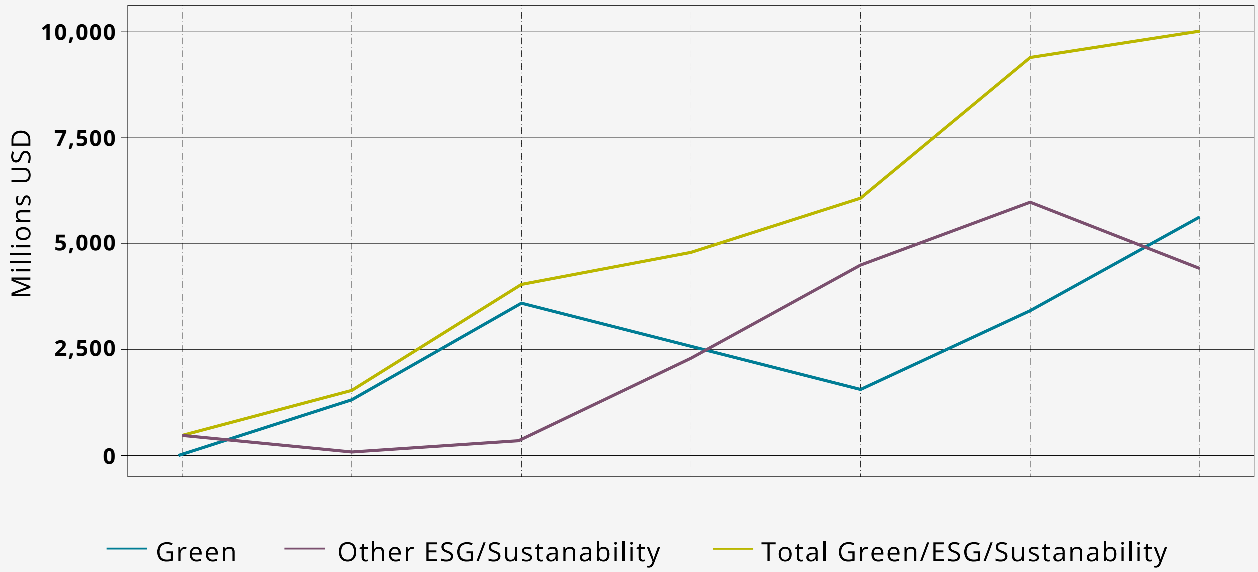
[261] "At $900m, Bahrain's first-ever 'green sukuk' makes a splash with London Stock Exchange listing," *Gulf News*, gulfnews.com/business/markets/at-900m-bahrains-first-ever-green-sukuk-makes-a-splash-withlondon-stock-exchange-listing-1.1648446470470.

[262] International Islamic Financial Market, "IIFM Sukuk Report: A Comprehensive Study of the Global Sukuk Market -12th Edition," August 2023, p. 143, share.mayfirst.org/s/BTGeiRKGA7gyw3g.

- *Blue sukuk*: Issued to fund marine-related projects like ocean conservation.
- *Transition sukuk*: Issued to fund a company's transition towards a reduced environmental impact.

In general terms, ESG *sukuk* are a growing segment of the *sukuk* market. As seen in Figure 46, annual issuance of green *sukuk* and related instruments grew from almost zero to over 20 billion USD between 2017-23 (Q3).

Figure 46. Green, ESG, and sustainability *sukuk* issuance (2017-23)



Source: Empower, with data from Refinitiv. Data for 2023 is available until Q3.

According to the International Islamic Financial Market, the recent rapid growth in ESG-related *sukuk* may be explained by a combination of factors, including growing demand from institutional investors that have adopted responsible investing stances, particularly investors from Western markets where ESG priorities are increasing; the usual demand from Shariah-compliant investors including green/sustainability *sukuk* in their portfolios; and a global supply shortage of this type of *sukuk*, as well as the need for extensive investments to fund sustainable development projects in deve-loping economies.[263]

Nevertheless, the increase in green/ESG/sustainability *sukuk* cannot only be explained by demand, as there have also been important efforts to position and promote green *sukuk* issuance. The Islamic Development Bank (IDB), for instance, launched a Sustainable Finance Framework in 2019, with the goal of enabling itself to issue green, social, and sustainability *sukuk*.[264] As result, the IDB has

[263] International Islamic Financial Market, "IIFM Sukuk Report: A Comprehensive Study of the Global Sukuk Market -12th Edition," August 2023, p. 143, share.mayfirst.org/s/BTGeiRKGA7gyw3g.

[264] Refinitiv, “Green And Sustainability Sukuk Report 2022," p. 18.

figured among the top green and sustainability sukuk issuers, issuing 5 billion USD in the first half of 2022.[265] In 2021, the High-Level Working Group on Green *Sukuk* (HLWG) was launched during COP26; this was a three-year initiative aimed at developing and promoting green and sustainability *sukuk* as a viable tool to attract the investments needed to achieve the SDG targets. The group included the Ministry of Finance of Indonesia, the Islamic Development Bank, the Islamic Finance Council, the London Stock Exchange, and the Global Ethical Finance Initiative.[266]

At the national level, some MENA countries have pushed forward policies, guidelines, and regulations to favor green/ESG/sustainability *sukuk* issuance. In 2021, Saudi Arabia issued ESG disclosure guidelines for its stock exchange, in accordance with Saudi Vision 2030, which places sustainability as one of its main commitments.[267] Also in 2021, the UAE published the Sustainable Finance Framework 2021-31, a set of policy recommendations to incentivize demand for green investment projects and sustainable financial products,[268] while Oman, also in 2021, established *sukuk* regulation including green and sustainable *sukuk*. More recently, in 2022, Kuwait reformed its Capital Markets Law to regulate the issuance, listing, and subscription of debt instruments like green and sustainability *sukuk*, and Qatar developed the first framework in the Gulf region focused on sustainable *sukuk* and bonds. This framework aimed to promote better disclosure, as well as improving reporting and transparency standards to guarantee the meeting of ESG objectives.[269]

Despite all these positive actions and trends, ESG-type *sukuk* face several challenges[270] and still account for a very small proportion of both the *sukuk* and ESG bond markets. In the first half of 2022, global ESG bond issuance amounted to 429 billion, while green and sustainability *sukuk* issuance amounted to just just 4.4 billion during the same period, meaning that green and sustainability *sukuk* barely represented 1% of total ESG bond issuance and 4% of total *sukuk* issuance.[271] The latest reports estimate green/ESG *sukuk* made up 6.8% of total *sukuk* issuance as of 3Q 2023.[272] In summary, green and sustainability *sukuk* are positioned to grow in importance, but are still a segment in development.

265 *Ibid*., p. 17.

266 "Major Islamic finance players from international working group to push sukuk agenda at COP summits", *Islamic Finance News*, 2021, islamicfinancenews.com/daily-cover-story-major-islamic-finance-players-forminternational-working-group-to-push-green-sukuk-agenda-at-cop-summits.html.

267 Saudi Vision 2023 seems to be particularly committed to the following SDGs: 7) affordable and clean energy; 11) sustainable cities and communities; 12) responsible consumption and production; 15) life on land; and 17) partnership for the goals. See: Islamic Corporation for the Development of the Private Sector & Refinitiv, "Islamic Finance Development Report 2022: Embracing Change," 2022, share.mayfirst.org/s/pCgJp2cJQTRiBiz, p. 46; Saudi Vision 2023, vision2030.gov.sa/media/rc0b5oy1/saudi_vision203.pdf, p. 23; and, "Towards Saudi Arabia´s Sustainable Tomorrow. Sustainable Development Goals," sustainabledevelopment.un.org/content/documents/27799powerpointpresentationsaudi.pdf, p. 4.

268 Refinitiv, "Green And Sustainability Sukuk Report 2022," p. 27.

269 *Ibid*., p. 30.

270 Challenges include diminishing the associated costs with monitoring the use of proceeds and investments. According to a Refinitiv survey in 2022, about 42% of investors said ESG reporting and screening criteria were the main reason for not investing in green and sustainability sukuk. See: Refinitiv, "Green And Sustainability *Sukuk* Report 2022," p. 39.

271 *Ibid*., p. 6.

272 Refinitiv, "Green And Sustainability Sukuk Update 2023," p. 6.

8.4 Prospects for the energy transition

Although much smaller than the conventional finance industry, Islamic finance has expanded across Muslim and MENA countries and is growing rapidly. Putting aside the use of interest to obtain profit (*Riba*), ESG principles and Islamic finance principles are complementary, as an important share of Shariah-compliant investors seem to have already included ESG criteria in their investing portfolios. Green and ESG *sukuk* are a prominent trend within the Islamic finance industry and the last seven years have seen modest but rapid growth within the general *sukuk* market.

Demand for green and ESG/sustainability *sukuk* have also increased as investors from regions outside MENA and Muslim countries have purchased them. As shown in the first part of this section, Western institutions from the U.S., UK, France, Switzerland, and Italy are important *sukuk* subscribers, while Western underwriters and stock exchanges also play an important role in the structuring of the *sukuk* market. This provides an opening for civil society actors to encourage better institutional support of green *sukuk* issuances for renewable energy projects. However, recent years have also seen regional MENA banks and exchanges gain relevance, as some Arab governments are working to further develop their own Islamic capital markets. Given the historically restrictive environments for advocacy in many MENA countries, this may be one market-friendly component of the effort to raise capital for renewable energy projects in the region.[273]

In spite of the market's small size as compared to ESG bonds globally, green *sukuk* are an important segment of the bond financing picture in the MENA energy sector, where they make up more than 20% of bond-like debt issued between 2019-23 in the four energy subsectors studied for this report. They will grow in importance as international and national actors in MENA continue to make efforts to advance both the *sukuk* and green *sukuk* markets. In Saudi Arabia especially, green *sukuk* have become relevant in the context of the Saudi Vision 2030 plan. Countries like the United Arab Emirates, Oman, Kuwait, and Qatar are also working on improving green and sustainable *sukuk*. The success of all these efforts will rely on continued investor demand, which appears to be strong, and underwriting from both Western and MENA banks.

[273] CIVICUS, "Consultation Report: How To Create And Maintain Civil Society Space. What Works? Middle East And North Africa," November 2015, ohchr.org/sites/default/files/Documents/AboutUs/CivilSociety/ReportHC/ 87_CIVICUS_CSI_report_-_civic_space_in_the_MENA_region.pdf.

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9 Conclusions

By way of conclusion, a number of strategic observations may be useful in considering possibilities for pro-human rights and environmental advocacy and campaigning.

First, as it concerns the extraction of fossil fuels and pipeline financing:

- Debt flows to MENA upstream projects come overwhelmingly from Western banks, led by Citigroup, HSBC, and JPMorgan Chase. When NOCs in the Gulf need to raise money, they rely on banks based in New York, London, Tokyo, and Paris.
- Bonds issued by Gulf NOCs are also overwhelmingly held by Western institutions, in this case asset managers like BlackRock and Fidelity, as well as insurance companies and, to a much lesser extent, pension funds.
- BlackRock funds alone have contributed as much cash to MENA oil companies since 2019 as has almost any bank, to say nothing of the much larger pipeline acquisition deals it has pulled together with other private equity firms in leveraged deals.
- Among the implications of the turn toward alternative financing by NOCs is the fact that much of their financing now comes from institutional investors, including a sizable list of pension funds and public entities that could be engaged differently than banks, such as CalSTRS, the New York City Employees' Retirement System, and others.
- BlackRock has already had some trouble raising money from more ESG-conscious institutions, especially in Europe, for the very sort of gas infrastructure fund used to complete these recent deals. Furthermore, private equity firms have deceivingly repackaged debt from the deals as ESG-neutral investments, a practice that could be targeted with EU reforms to combat greenwashing.
- Approximately half of projected upstream investment in MENA is attributable to private-sector oil companies, primarily European. While these companies

are also active in the Gulf, their relationship to North African governments and NOCs puts them in a position of greater economic and political leverage than they enjoy with Gulf counterparts such as ADNOC and Saudi Aramco, which have far more access to international financing.

- European oil companies such as Eni, in particular, may present more realistic points of intervention, and have already been confronted by civil society groups over new international resource extraction. Increased exploration in North Africa is the incorrect response to European dependence on Russian gas — not just for climate reasons but even for energy security risks, as Eni ramps up exploration in Mediterranean waters bordering Gaza where production has already been affected.

And second, in relation to the energy transition:

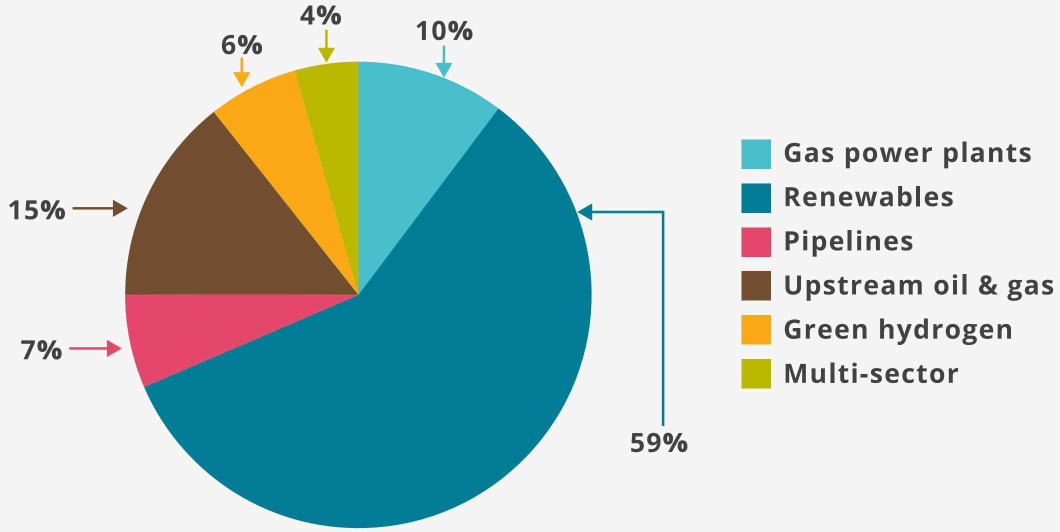
- Western financial institutions do not play as dominant a role in renewable energy, with the exception of North Africa, where international development financing is most pronounced. Sovereign wealth funds dominate renewable investment in Saudi Arabia and UAE.
- While international SWF forums might be avenues for encouraging more aggressively green capital allocations by regional SWFs, other State entities will likely continue to step in to ensure gas power remains viable as part of national strategic mandates.
- Lending to gas power projects comes primarily from MENA banks, followed by East Asia. Since all of these lenders continue to view gas as a transition fuel, supporting exclusionary criteria around coal and oil-fired power generation may be a more realistic short-term objective from a financial campaigning perspective.
- Oil power generation is most relevant at scale in Saudi Arabia, Iraq, and Kuwait, while Morocco is the only country still heavily reliant on coal, albeit with phaseout plans.
- It may be worth exploring efforts to "skip" gas power to the extent possible in Morocco's transition away from coal, as the country is gearing up for LNG import.
- Green *sukuk* can play a modest role in augmenting capital flows to the industry. While they will not necessarily activate a huge investor base, they are currently sitting on the balance sheets of many non-Islamic asset managers.
- European/U.S. banks and European exchanges play a vital role in the sukuk market, in close collaboration with Gulf governments.

Annex 1. Public Investment Fund

PIF has a leading role as an investor in Saudi Arabia's energy sector and is expected to be a key player in the country's energy transition, as it is committed to developing 70% of the renewable target outlined in the Saudi Vision 2030 program.[274]

Empower has identified projected and executed energy finance activity totaling approximately 44 billion USD from PIF for the period of 2019-26, including equity, debt, and the participation of PIF-affiliated banks as bond underwriters. More than half of these investments (59%) were directed towards green energies, followed by upstream oil and gas (10%). Approximately 13.5%, equivalent to 6 billion USD, were allocated to gas power plants.

Figure 47. PIF projected and executed energy finance (2019-26)

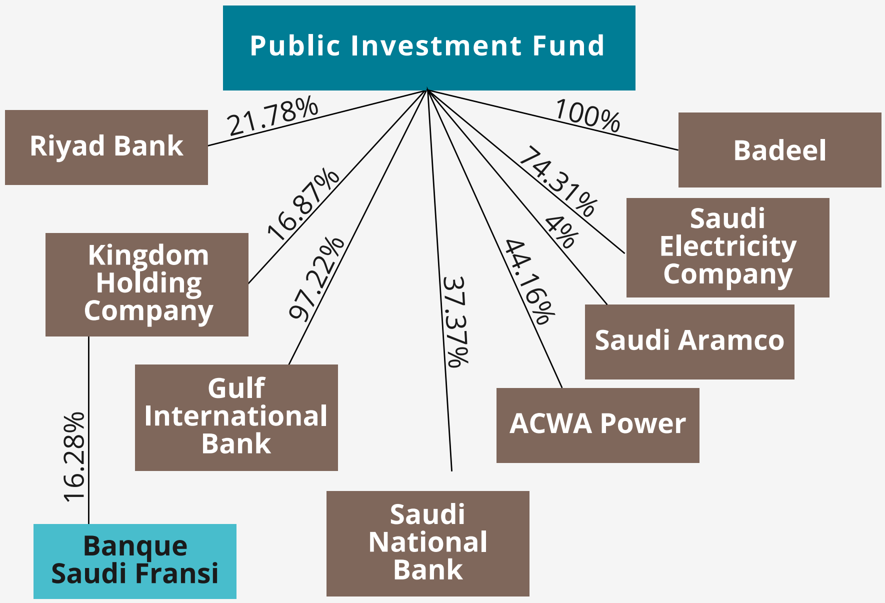


Source: Empower, with data from APICORP and IJGlobal.

These investments are made by PIF both directly and through its participation in key Saudi Arabian energy companies and banks. This includes a minority stake in Saudi Aramco (4%) and a larger share in ACWA Power (44.16%) and the Saudi Electricity Company (74.31%), all of which are majority State-owned, as well as full ownership of the Water & Electricity Holding Company (Badeel). Additionally, PIF is the largest shareholder of the Saudi National Bank (37.37%) and Riyad Bank (21.78%), which are top financial institutions in Saudi Arabia. Furthermore, it controls the Gulf International Bank (97.22%), which is based in Bahrain, and in which QIA (0.73%) and Mumtalakat (0.44%) hold minority stakes.

[274] PIF, "Green Finance Framework," February 2022, www.pif.gov.sa/Investors%20Files%20EN/DNV%20Second%20Party%20Opinion.pdf, p. 1.

Figure 48. PIF ownership of companies and banks financing key MENA energy projects



Source: Empower, 2023.

PIF is one of the most active SWFs in terms of its green investments and commitment to addressing climate change, and probably the most advanced member of the One Planet SWF Initiative among Gulf SWFs as it concerns sustainability and transparency practices.[275]

Since 2015, PIF's administration was transferred from the Ministry of Finance to the Council of Economic and Development Affairs (CEDA). Following this change, PIF aligned its objectives with the country's ambition to achieve net-zero greenhouse gas emissions by 2060, as well as with Saudi Vision 2030, which aims to diversify the Saudi economy beyond oil.[276] Saudi Vision 2030 includes a renewable target capacity of 58.5 GW by 2030, from which PIF has committed to develop 70%.[277] The program also includes a goal to grow PIF into the world's largest SWF by increasing its assets from 1.5 billion USD to 1.8 trillion USD (600 billion SAR to 7 trillion SAR).[278]

In 2020, PIF divested from its last large oil and gas investment by selling its 70% equity stake in SABIC to Saudi Aramco for 69 billion USD.[279] However, in April 2022, the Saudi government transferred a 4% stake in Saudi Aramco to PIF through Sanabil Investments, which, as of October 2023,

275 One Planet SWF Network, "Framework Companion Document 2022," oneplanetswfs.org/wp-content/pdfjs/web/viewer.html?file=/download/155/6oct2022/1959/companiondocument_2022.pdf, p. 14.

276 PIF, "Green Finance Framework," February 2022, www.pif.gov.sa/Investors%20Files%20EN/DNV%20Second%20Party%20Opinion.pdf, p. 1.

277 PIF, "Green Finance Framework," February 2022, www.pif.gov.sa/Investors%20Files%20EN/PIF%20Green%20Finance%20Framework.pdf, p. 1.

278 Vision 2030, "Saudi Vision 2030," 2023, www.vision2030.gov.sa/media/rc0b5oy1/saudi_vision203.pdf, pgs. 42, 47.

279 Frank Kane, "Saudi Aramco and PIF seal 'milestone' $69bn SABIC deal," *Arab News*, 17 June 2020, www.arabnews.com/node/1691126/business-economy; and, The Abdullah Bin Hamad Al Attiyah Foundation, "The Role of Sovereign Wealth Funds in Energy," November 2021, www.abhafoundation.org/media-uploads/reports/Energy_Report_Issue_63_11_2021_November_Print.pdf, p. 10.

was worth approximately 86 billion USD, in order to strengthen PIF's finances.[280] Meanwhile, PIF increased its stake in ACWA Power,[281] becoming the largest shareholder of the company in 2021. Currently, ACWA's power generation primarily relies on fossil fuels; 46% is fueled by natural gas and 15% by heavy fuel oil, while 23% of its capacity is photovoltaic and 12.9% is wind-powered.[282] ACWA aims to achieve net-zero emissions by 2050 and is committed to halting investments in new oil or coal-based projects, but it has not made a clear commitment regarding natural gas.[283]

PIF is the primary shareholder in both the Saudi National Bank (SNB) (37.37%) and Riyad Bank (21.78%), alongside major Western asset managers like Vanguard and BlackRock, which each own less than 2% of both institutions. Both the SNB and Riyad Bank have Sustainable Finance Frameworks that are aligned with the Saudi Arabia Vision 2030 agenda. These frameworks include the prioritization of green energies but not divestment from fossil fuel.[284]

Key leaders and alliances

PIF's Board of Directors is chaired by MBS, crown prince and prime minister of Saudi Arabia, who has been widely criticized worldwide for numerous human rights violations.[285] It also includes members of the Saudi Council of Ministers.[286]

Since 2019, Yasir Bin Othman Al-Rumayyan has served as the governor of PIF. He also holds significant roles as chairman of Saudi Aramco, the Saudi Arabian Mining Company, Sanabil Investment Company (2017-23), the Royal Court Decision Support Center (2016-23),[287] and Reliance Industries Limited (NSE:RELIANCE).[288] Previously, he served as a board member of SoftBank Group (2017-20) and Uber Technologies (2016-23), in which Al-Rumayyan holds a 17 million USD stake.[289]

280 Riyadh – Mohammed Al-Mutairi, "Why Saudi Arabia Transferred 4% of Aramco Shares to PIF Subsidiary?," *Asharq Al-Awsat*, 20 April 2023, english.aawsat.com/home/article/4284381/why-saudi-arabia-transfered-4-aramco-shares-pif-subsidiary.

281 ACWA's primary shareholder is the PIF (44.16%), followed by ACWA Holding Co. (22.75%), a private company owned by two Saudi industrial groups: the Al Muhaidib Group (50%) and the Abunyyan Holding Group (50%). ACWA Power founder and chairman Mohammad Abunayyan holds a 3.65% stake in the company and is also the chairman of Abunyyan Holding Group. See: ACWA Power, "Annual Report 2022," ar2022.acwapower.com/download/full-reports/ar_en_annual-report_pages_acwapower_2022.pdf; and, Abunayyan Holding, "Our People," www.abunayyanholding.com/en/section/who-we-are/our-people.

282 ACWA Power, "Annual Report 2022," ar2022.acwapower.com/download/full-reports/ar_en_annualreport_pages_acwapower_2022.pdf, p. 8.

283 ACWA Power, "Annual Report 2022," ar2022.acwapower.com/download/full-reports/ar_en_annualreport_pages_acwapower_2022.pdf, pgs. 28, 30.

284 Saudi National Bank, "Sustainable Finance Framework," November 2021, www.alahli.com/en-us/Investor_Relation/Documents/SNB-Sustainable-Finance-Framework-15-11-2021-v2.pdf; and, Riyad Bank, "Sustainable Finance Framework," February 2022, www.riyadbank.com/documents/20121/3505280/Sustainable-Finance-Framework_tcm8-27876.pdf/b885276a-05ce-c3b5-264f-851e185e4b6f?t=1683712336274&download=true.

285 Amnesty International, "Saudi Arabia 2022," www.amnesty.org/en/location/middle-east-and-north-africa/saudi-arabia/report-saudi-arabia.

286 PIF, "Annual Report 2022," www.pif.gov.sa/Annual%20Report%20EN/PIF%20Annual%20Report%202022.pdf, p. 54.

287 PIF, "Annual Report 2022," www.pif.gov.sa/Annual%20Report%20EN/PIF%20Annual%20Report%202022.pdf, p. 109.

288 The PIF owns a 2.04% stake in Reliance subsidiary Reliance Retail Venture Limited. See: Reliance Industries, "Our Company," www.ril.com/OurCompany/Leadership/BoardOfDirectors.aspx; and, PIF, "Annual Report 2022," www.pif.gov.sa/Annual%20Report%20EN/PIF%20Annual%20Report%202022.pdf, p. 69.

289 The end date of Al-Rumayyan's term as a board member of Uber is unclear. See: SEC, "Statement of Changes in Beneficial Ownership: Uber Technologies," 5 September 2023, www.sec.gov/Archives/edgar/data/1543151/000156218023004021/xslF345X04/primarydocument.xml.

According to Human Rights Watch, Al-Rumayyan played a crucial role in the 2017 "anti-corruption" crackdown ordered by MBS, which consisted of "arbitrary detentions, abusive treatment, and extortion of property" from previous and current government officials. Al Rumayyan, then PIF's managing director, was in charge of transferring the companies seized in the crackdown to PIF. Several humans rights violations have been signaled in this operation, which has been justified by MBS as "shock therapy."[290]

Under Al-Rumayyan's leadership, PIF has expanded its presence in global markets by investing, directly or through its subsidiary Sanabil Investments, in private equity and venture funds.[291] In the process, PIF has been winning influence in important Western technology companies.

Furthermore, Al-Rumayyan has increased PIF's investment in the gaming and sports sectors, and has become a notable figure in the sports world as chairman of Newcastle United, which is 80% owned by PIF, and as a leader in the recent merger of the PGA Tour and LIV Golf, two of the most prominent golf leagues.[292] This merger drew criticism from U.S. Senate critics, who viewed it as an attempt to shape public opinion about the Saudi government and perceived transparency issues within PIF.[293] Human Rights Watch also provided testimony, advocating for more thorough due diligence in U.S. companies' dealings with PIF.[294] In the context of this controversy, Yasir Al-Rumayyan was called to testify by the Committee on Homeland Security and Governmental Affairs of the U.S. Senate, though he neglected to appear, prompting the Senate's Permanent Subcommittee on Investigations to subpoena PIF in September 2023, part of a broader political response to the fund's growing influence in Washington through its investments.[295]

[290] Human Right Watch, "Saudi Arabia: Clarify Status of 'Corruption' Detainees," 18 February 2019, www.hrw.org/news/2019/02/18/saudi-arabia-clarify-status-corruption-detainees; and, Human Right Watch, "Saudi Arabia: Investment Fund Linked to Abuses," 13 September 2023, www.hrw.org/news/2023/09/13/saudi-arabia-investment-fund-linked-abuses.

[291] Samer Al-Atrush, "Saudi Arabia's PIF discloses investments in dozens of buyout firms," *Financial Times*, 4 April 2023, www.ft.com/content/ae208881-721e-4755-b10e-2a9fa54ecc37; and, Geroge Hay and Karen Kwok, "Saudi's $700 billion PIF is an odd sort of sovereign fund," *Reuters*, www.reuters.com/breakingviews/saudis-700-bln-pif-is-odd-sort-sovereign-fund-2023-09-21.

[292] "The Rise of Yasir Al-Rumayyan: A Man of Power and Mistery," *House of Soud*, 8 September 2023, houseofsaud.com/the-rise-of-yasir-al-rumayyan-a-man-of-power-and-mystery; and, Jeff Ritter, "Get to Know Yasir Al-Rumayyan, the New Most Powerful Person in Golf," *Sports Illustrated*, 2 June 2023, www.si.com/golf/news/get-to-know-yasir-al-rumayyan-the-most-powerful-person-in-golf

[293] "Senate subpoenas Saudi Public Investment Fund's U.S. subsidiary for info on PGA-LIV Golf deal," *CNBC*, 13 September 2023, www.cnbc.com/2023/09/13/senate-subpoenas-saudi-public-investment-funds-us-arm-onpga-liv-golf-deal-.html.

[294] Human Rights Watch, "Testimony to the Senate Subcommittee on Investigations," 13 September 2023, www.hrw.org/news/2023/09/13/testimony-senate-subcommittee-investigations.

[295] Letter from United States Senate Committe on Homeland Security and Governmental Affairs to Yasir AlRumayyan, 16 August 2023, www.hsgac.senate.gov/wp-content/uploads/2023-08-16-Blumenthal-Letter-toPIF-re-Response-Letter_Redacted.pdf.

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Annex 2. The Emirates' funds

The UAE has four SWFs responsible for making long-term investments with oil and gas surpluses through the management of government assets by its two largest Emirates. Three of these funds are located in Abu Dhabi and one in Dubai. Abu Dhabi, the wealthiest emirate, holds the greatest political control over the UAE, with its ruler, MBZ, also serving as president of the Union. Dubai, the second wealthiest emirate, is ruled by Mohammed bin Rashid Al Maktoum, who serves as prime minister of the UAE.

Table 8. SWFs of the United Arab Emirates

Deal	Emirate	Description
Abu Dhabi Investment Authority (ADIA)	Abu Dhabi	The largest SWF in the MENA region, it focuses on global investments, with more than half of its portfolio located in North America. Empower did not find capital flows linking ADIA with the energy sector in MENA countries. **AUM:** 853 million USD.
Investment Corporation of Dubai (ICD)	Dubai	Created in 2006 with the assets of the Dubai Department of Finance's Investment Division. It works as the investment arm of Dubai's Government. **AUM:** 320 million USD.
Mubadala	Abu Dhabi	Created in 2017 from the merger of International Petroleum Investment Company and Mubadala Development Company. The primary goal of this merger was to establish a fund for "future generations." **AUM:** 287 million USD.
ADQ	Abu Dhabi	Created in 2018 as a State-owned holding company for government assets (Abu Dhabi Developmental Holding Company). In 2020, it was re-branded as ADQ and started growing its portfolio through the acquisition of regional and international assets. **AUM:** 159 million USD.

Source: Empower, 2023.

The UAE Net Zero 2025 initiative is one of the most ambitious energy transition plans in the region[296] and Abu Dhabi's Mubadala and ADQ play pivotal roles in it. Until 2022, Mubadala was the owner of Masdar, the green energy company of the UAE. It also holds Mubadala Energy, the re-branded name of Mubadala Petroleum.[297] Meanwhile, ADQ, owner of TAQA, has committed to drive economic diversification in Abu Dhabi. In recent years, ADQ has made significant investments toward this goal, including the acquisition of a 43% stake in Masdar in 2022 through a subsidiary.[298]

Masdar is the key company in UAE's energy transition. It was created in 2006 as an energy company focused on diversification of the country's economy and energy sources.[299] In 2022, the

[296] "The UAE's response to climate change," UAE Government Portal, u.ae/en/information-and-services/environment-and-energy/climate-change/theuaesresponsetoclimatechange.

[297] Mubadala, "Mubadala Energy Launched," 22 September 2022, www.mubadala.com/en/news/mubadalaenergy-launched.

[298] TAQA, "TAQA, ADNOC and Mubadala Enter Binding Agreements for Acquisition of Masdar Stake," 21 June 2022, www.taqa.com/press-releases/taqa-adnoc-and-mubadala-enter-binding-agreements-for-acquisition-ofmasdar-stake.

[299] Masdar, "Who we are," masdar.ae/en/our-company/about-masdar.

government of Abu Dhabi consolidated the green divisions of its three major energy companies — ADNOC, Masdar, and TAQA — under the unified name of Masdar. This move was aimed at creating a "global clean energy powerhouse." The deal will provide Masdar with equity investment from ADQ and ADNOC, necessary to achieve the company's goals of increasing renewable energy capacity by 100 GW and producing 1 million tons of green hydrogen by 2030.[300] Following this restructuring, Masdar has emerged as the largest renewable energy company in the region, now overseeing assets totaling 30 billion USD.[301]

Despite its major green commitments, the energy companies controlled by Abu Dhabi's SWFs continue to rely on natural gas. For example, Mubadala Energy aims to contribute to the energy transition using natural gas as a "key bridge fuel."[302] Meanwhile, 64% of TAQA's installed power generation capacity comes from gas power, and the company has not committed to divesting from this type of infrastructure.[303]

Abu Dhabi's SWFs are distinct entities, yet they exhibit significant interconnections through shared assets and common control by the ruling family. For instance, ADIA and ADQ are both headed by Tahnoun Bin Zayed Al Nahyan. Tahnoun is a key player in UAE's politics and finances, as he is the brother of the UAE president MBZ, and the head of the Royal Group, a multi-sector holding company linked to the royal family. Meanwhile, Mubadala's board is chaired by Mansour bin Zayed Al Nahayan, also a brother of MBZ, and current vicepresident and deputy prime minister of the UAE.

There is a closely interwoven network of ownership and partnerships among the Abu Dhabi's State-owned companies, SWFs, and companies linked to the royal family. This network reflects a complex dynamic in which the boundaries between the interests of the State and the private interests of the royal family are unclear. The Royal Group indirectly owns 5.1% in TAQA, making it the only major shareholder in the company other than ADQ. The Royal Group also has interests in the Dubai Electricity and Water Authority, Emirates International Gas, Kaylon Enerji Yatirimlari, which is the green energy arm of the Turkish Kaylon Holdings, and the Indian Adani Group.

In contrast to Abu Dhabi's SWFs, Dubai's ICD has less investment in the energy sector and does not figure prominently in the energy transition. No investment in gas power was identified from ICD or ICD-related companies. ICD is highly focused on the banking and transportation sectors, with the latter representing 45% of its revenue, primarily attributed to the global success of Emirates Airlines.[304]

[300] TAQA, "TAQA, ADNOC and Mubadala Enter Binding Agreements for Acquisition of Masdar Stake," 21 June 2022, www.taqa.com/press-releases/taqa-adnoc-and-mubadala-enter-binding-agreements-for-acquisition-ofmasdar-stake; and Masdar, "Green Finance Report 2022," masdar.ae/-/media/corporate%20revamp/downloads/investors/Masdar%20GFF%20Allocation%20and%20Impact%20Report%202022.pdf, p. 3.

[301] Masdar, "About Masdar," masdar.ae/en/our-company/about-masdar.

[302] Mubadala, "Mubadala Energy Launched," 22 September 2022, www.mubadala.com/en/news/mubadalaenergy-launched.

[303] TAQA, "Green Finance Framework," April 2023, www.taqa.com/wp-content/uploads/2023/04/TAQA-GreenFinance-Framework.pdf, p. 2.

[304] ICD, "Annual Report 2022," 2023, icd.gov.ae/wp-content/uploads/2023/08/ICD-AR2022-Full-Report230607.pdf, p. 11.

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Mubadala

In 2017, the Abu Dhabi government established Mubadala Investment Company through the merger of International Petroleum Investment Company (IPIC) and Mubadala Development Company. The primary goal of this merger was to form an investment entity with the purpose of establishing a fund for "future generations." In 2018, the assets of the Abu Dhabi Investment Council were integrated into Mubadala and it become the secondlargest SWF in the country.[305]

Mubadala has a Green Finance Framework that establishes its commitment to achieving net zero emissions by 2050 through the decarbonization of its assets and investment in sustainable energies. In addition, it is aligned with the National Climate Change Plan of the UAE 2017-25 and the UAE Net Zero by 2050 Strategic Initiative, and it is a member of the One Planet SWF Initiative.[306]

In 2022, Mubadala was recognized by the One Planet SWF Initiative as the second-largest SWF investor in renewable energies, just after Singapore's GIC fund,[307] and as the SWF that divested from the most oil and gas assets.[308] For instance, during that period, Mubadala divested from two of its major international investments in hydrocarbons. It sold its 24.9% stake in OMV Group, a multinational energy company in which the Austrian government holds a 31.51% stake, as well as its 24.9% stake in the chemical company Borealis, majority-owned by OMV. However, Mubadala's interests in these companies were transferred to ADNOC, so they are still owned by Abu Dhabi.[309]

Despite taking steps towards divesting from oil and gas, Mubadala still owns Mubadala Petroleum, which was re-branded in 2022 as Mubadala Energy.[310] Currently, 66% of Mubadala Energy's production is natural gas and its growth strategy relies on expanding in the natural gas value chain.[311] In addition, Mubadala still owns a controlling stake in Spanish multinational oil and gas company CEPSA.[312]

Empower has identified a total of approximately 17 billion USD in projected and executed energy finance activities from Mubadala between 2019-26 (see Figure 49).[313]

305 Mubadala, "Our History," www.mubadala.com/en/who-we-are/our-history.

306 Mubadala, "Green Finance Framework," September 2023, www.mubadala.com/en/-/media/project/mubadala/reports/en/2023/MDGH%20Green%20Finance%20Framework_September%202023.pdf.

307 Formerly known as Government of Singapore Investment Corporation Pte Ltd.

308 One Planet SWF Network, "Framework Companion Document 2022," oneplanetswfs.org/wp-content/pdfjs/web/viewer.html?-file=/download/155/6oct2022/1959/companiondocument_2022.pdf, pp. 15 and 24.

309 Mubadala, "Annual Review 2022," cdn-mubadala.azureedge.net/en/-/media/project/mubadala/mubadala2022/home/pdf/mubadala-annual-review-2022-english.pdf, p. 56.

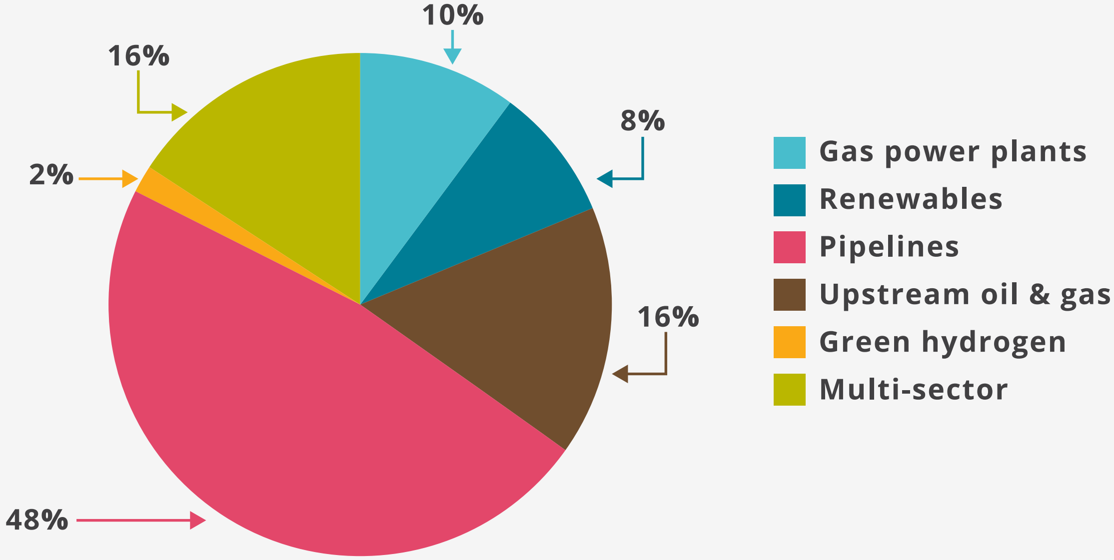
310 Mubadala, "Annual Review 2022," cdn-mubadala.azureedge.net/en/-/media/project/mubadala/mubadala2022/home/pdf/mubadala-annual-review-2022-english.pdf, p. 64.

311 Mubadala Energy, "Our Strategy," mubadalaenergy.com/who-we-are/#strategy.

312 HCEPSA, "2022 Integrated Management Report," www.cepsa.com/stfls/corporativo/FICHEROS/igi-consolidado2022-informe-de-verificacion-cepsa-en.pdf, p. 49.

313 Empower identified capital flows totaling approximately 629 million USD from Saudi Aramco, with the majority allocated to the upstream oil and gas sector. In order to avoid over-representation of this sector, only 4% of Saudi Aramco's identified capital was included. This 4% corresponds to PIF's stake.

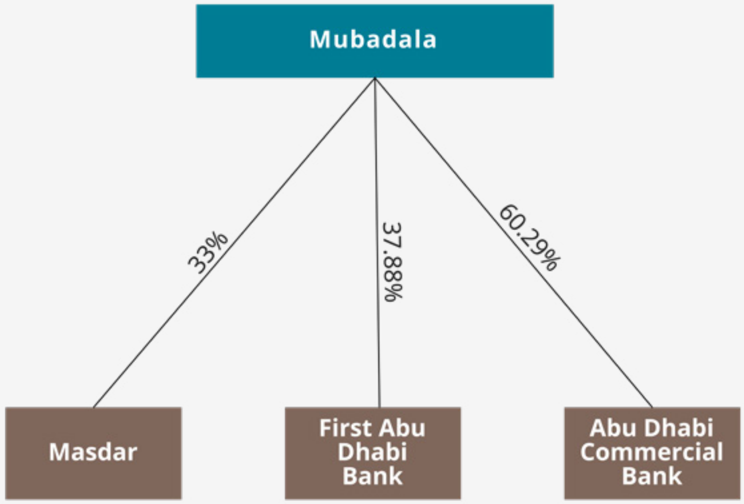
Figure 49. Mubadala projected and executed energy finance (2019-26)



Source: Empower, with data from APICORP and IJGlobal.

Most of these flows (94.62%) originate from the involvement of two banks in which Mubadala is the primary investor, First Abu Dhabi Bank (FADB) and Abu Dhabi Commercial Bank (ADCB), as lenders and bond underwriters. The rest was invested as equity directly by Mubadala and Masdar.

Figure 50. Mubadala ownership of companies financing key MENA energy projects



Source: Empower, 2023.

FADB is the largest bank in the UAE. Its board is chaired by Tahnoun Bin Zayed Al Nahyan. [314] As described below, Tahnoun is a key player in UAE's politics and finances.

Furthermore, FADB participated in the financing of two gas power plants, acting as a lender in debt facilities supported by several financial institutions, including the ADCB, in which Mubadala holds a 60.2% stake. The first was the acquisition of the Mirfa IWPP gas power plant by TAQA, Sojitz, and Engie using a loan facility awarded in 2022.[315] The second, also financed in 2022, was the Jazan IGCC power plant, developed by Jazan Integrated Gasification and Power Company (JIGPC), a conglomerate of companies including ACWA Power, Air Products and Chemicals, and Saudi Aramco.[316] Located in Saudi Arabia, the Jazan plant has a capacity of 3,800 MW, positioning it as one of the largest integrated gasification combined cycle plants in the region.[317]

Key leaders and alliances

Mubadala's board has been chaired by Mansour bin Zayed bin Sultan Al Nahyan since 2017. Mansour is a brother of MBZ and Tahnoun, and currently serves as vice-president and deputy minister of the UAE. He holds influential positions in key UAE institutions, including the Ministerial Development Council, the Emirates Investment Authority (EIA), ADIA, the Supreme Council for Financial and Economic Affairs, and the Central Bank. Additionally, Mansour plays a significant role in the Emirates' energy policy as a member of the Supreme Petroleum Council, the Supreme Council for Financial Affairs, and the board of ADNOC.[318] In addition to his participation in State-owned companies, Mansour's personal investments include the City Football Group, owner of Manchester City and other clubs.[319]

The CEO of Mubadala, Khaldoon Al Mubarak, is part of the inner circle of Abu Dhabi's royal family and is recognized as an influential policymaker in the UAE. Among other public charges, he is chairman of the Executive Affairs Authority, which provides strategic advice to MBZ, and special envoy to China. Furthermore, Khaldoon is chairman of ADCB, Emirates Global Aluminium, and the Emirates Nuclear Energy Corporation, and a board member of ADNOC and artificial intelligence company Group G42, which has recently attracted criticism from the U.S. government due to its work with the Chinese government.[320],[321]

[314] FAB, "Board of Directors," www.bankfab.com/en-ae/about-fab/group/board-of-directors.

[315] TAQA, "TAQA Secures AED 4.0 billion Project Financing for Mirfa International Power & Water Plant," 21 September 2022, www.taqa.com/wp-content/uploads/2022/09/21092022-MIPCO-Refinancing-FinancialClose_Eng-.pdf; and, Mirfa International Power & Water Company, "Our Project," www.mipco.ae/projects.

[316] "Acquisition of Jazan IGCC Power Plant (3800MW)," IJGlobal, 8 April 2022, share.mayfirst.org/s/yKXxczFXN5SRz58.

[317] ACWA Power, "Jazan IGCC," acwapower.com/en/projects/jazan-igcc; JIGPC, jigpc.com/home.

[318] UAE Presidential Court, "His Highness Sheikh Mansour bin Zayed Al Nahyan," diwan.gov.ae/minister/en/cv

[319] City Football, "Our Story," www.cityfootballgroup.com/our-story.

[320] United Arab Emirates Executive Affairs Authority, "H.E. Khaldoon Khalifa Al Mubarak," eaa.gov.ae/en/pages/chairman-executive-affairs-authority.html.

[321] Mark Mazzetti and Edward Wong, "Inside U.S. Efforts to Untangle an A.I. Giant's Ties to China," *The New York Times*, 27 November 2023, www.nytimes.com/2023/11/27/us/politics/ai-us-uae-china-security-g42.html.

Under the guidance of Mansour and Khaldoon, Mubadala has signed strategic partnerships with key U.S. asset managers, such as Apollo and BlackRock, in order to finance portfolio expansion. In 2020, Mubadala and Apollo created Apollo Strategic Origination Partners, a fund of around 12 billion USD aimed at creating financing opportunities for companies through equity and debt.[322] In January 2023, Mubadala and Alpha Dhabi Holding (ADX:ALPHADHABI), a subsidiary of the royal family's International Holding Company, formed a joint venture to co-invest 2.5 billion USD from the Apollo Strategic Origination Partners platform.[323]

ADQ

ADQ, formerly known as Abu Dhabi Developmental Holding Company, was founded in 2018. It operates as a long-term investment and holding company, created to drive the transformation of Abu Dhabi from an oil-based economy into a knowledge-based one. This includes the mandate to lead the energy transition. In 2022, ADQ contributed 22% of Abu Dhabi's non-oil GDP.[324]

In recent years, ADQ has been implementing strategic changes within its energy-related companies and other key actors in the UAE to advance its objectives in the sector. In 2020, it merged the holdings of ADQ's wholly-owned Abu Dhabi Power Corporation (ADPC) and the Abu Dhabi National Energy Company — of which ADPC owns 90% — under the unified name of TAQA.[325]

As mentioned, in 2022, the Government of Abu Dhabi restructured Masdar's ownership, with ADQ emerging as the major shareholder (43%), followed by ADNOC (24%) and Mubadala (33%).[326] The transaction aimed to transform Masdar in a large-scale green energy company. It also consolidated ADQ's relevance in the UAE energy landscape.

In October 2020, ADQ, together with the Abu Dhabi Pension Fund (ADPF), invested 2.1 billion USD in the acquisition of a 10.2% stake in ADNOC's gas pipeline network, joining a consortium of Western private equity firms and institutional investors that had recently purchased a 49% stake.[327] The ADQ deal was supported with a 1.7 billion USD term loan granted by FADB, ADCB, and Sumitomo Mitsui Banking Corporation.[328]

[322] Apollo, "Apollo Forms 'Apollo Strategic Origination Partners' Focused on Large-Scale Direct Lending," 6 July 2020, www.apollo.com/insights-news/pressreleases/2020/07/apollo-forms-apollo-strategic-originationpartners-focused-on-large-scale-direct-lending-123044435.html.

[323] Apollo, "Alpha Dhabi and Mubadala Form Partnership to Co-invest in Global Credit Opportunities," 5 January 2023, www.apollo.com/insights-news/pressreleases/2023/01/alpha-dhabi-and-mubadala-form-partnershipto-co-invest-in-global-credit-opportunities.html.

[324] ADQ, "Sustainable Finance Framework," September 2023, assets.website-files.com/63159b6a1b1c7641eaae3d7f/64f811970a8ce-1f3a1305a07_ADQ_Sustainable%20Finance%20Framework.pdf, pp. 5 and 17.

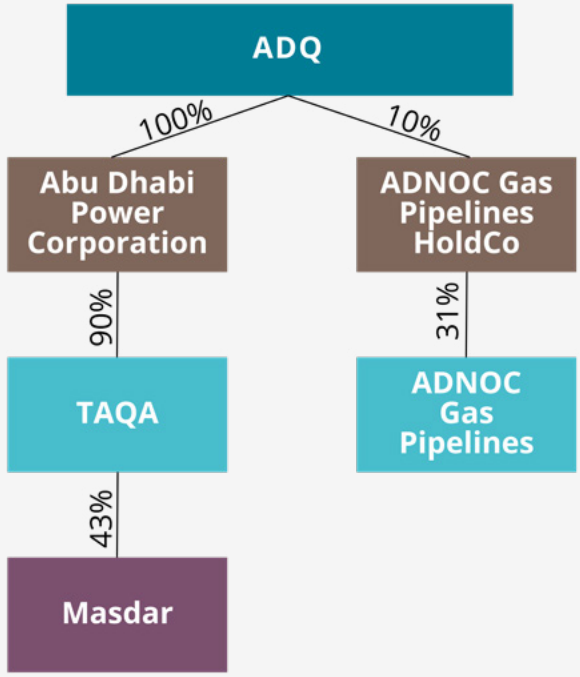
[325] TAQA, "Integrated Report 2022," www.taqa.com/wp-content/uploads/2023/03/20230315-TAQA-AR2022_ENG_Full-V7.pdf, p. 104; and, Citi, "Abu Dhabi Power Corporation. Merger Creates National Champion to Transform Power and Water Sectors," www.citibank.com/icg/sa/psg/case-studies/html/2022058-AbuDhabi-Power-Corporation-Case-Study.html.

[326] TAQA, "TAQA, ADNOC and Mubadala Enter Binding Agreements for Acquisition of Masdar Stake," 21 June 2022, www.taqa.com/press-releases/taqa-adnoc-and-mubadala-enter-binding-agreements-for-acquisition-ofmasdar-stake.

[327] ADPF, "Abu Dhabi Pension Fund and ADQ Invest $2.1 Billion in ADNOC Energy Infrastructure Deal," 18 October 2020, www.pension.gov.ae/en-us/pages/News.aspx?NewsID=118.

[328] "Acquisition of 10.2% in ADNOC Gas Pipeline Assets," IJGlobal, 4 January 2021, share.mayfirst.org/s/DWdBgmSH8mmnxT4.

Figure 51. ADQ ownership of companies financing key MENA energy projects



Source: Empower, 2023.

Empower identified projected and executed energy financing by ADQ and related companies totaling approximately 3.9 billion USD for the period of 2019-26, all in the form of equity.[329] Of this total, 98.31% was allocated to renewable energy projects, with only 1.69% directed to gas power, while no capital related to the other segments was detected.

The only identified capital flow linking ADQ with gas power is the 1 billion USD refinancing of the Mirfa Power and Water Plant obtained in 2022. The Mirfa power plant is owned by the Mirfa International Power & Water Company, in which TAQA holds a 60% stake, while Engie (ENXT-PA:ENGI) and Sojitz Corporation (TSE:2768) hold 20% each.[330] The refinancing was used to pay debt acquired in 2014 for the plant's development, which began commercial operations in 2017.[331]

However, it is important to note that 64% of TAQA's installed power generation capacity relies on gas, while only 11.3% comes from renewables, though that figure has increased to 28.3% after the integration of Masdar's assets.[332] TAQA has not committed to divest from gas power, only to increase renewable energy to 30% of its power generation portfolio by 2030.[333] In this context,

[329] This figure includes 43% of the 1.5 billion USD equity investment estimated for Masdar, representing ADQ's ownership stake in the company.

[330] "Mirfa IWPP (1600MW) Refinancing 2022," IJGlobal, 15 February 2023, share.mayfirst.org/s/LtQGi3Ds8eZa59S.

[331] TAQA, "TAQA Secures AED 4.0 billion Project Financing for Mirfa International Power & Water Plant," 21 September 2022, www.taqa.com/wp-content/uploads/2022/09/21092022-MIPCO-Refinancing-FinancialClose_Eng-.pdf; and Mirfa International Power & Water Company, "Our Project," www.mipco.ae/projects.

[332] TAQA, "Sustainability Report 2022," www.taqa.com/wp-content/uploads/2023/04/TAQA-Sustainability-Report2022.pdf, p. 5.

[333] TAQA, "Green Finance Framework," April 2023, www.taqa.com/wp-content/uploads/2023/04/TAQA-GreenFinance-Framework.pdf, p. 2.

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it is possible that ADQ will continue investing in gas power projects through TAQA. Any such investments might contradict ADQ's sustainable Finance Framework, which excludes financing projects "associated with fossil fuel exploration, extraction, refining, transport and/or distribution," but does not define its position towards gas power generation.[334]

Key leaders and alliances

ADQ is under the control of Abu Dhabi's royal family, which also holds political authority over the UAE. Since 2021, the Board of Directors of ADQ is chaired by Tahnoun bin Zayed Al Nahyan, who is the brother of the current UAE president, MBZ.

Tahnoun is a close confidant of MBZ and has been entrusted with significant strategic positions and responsibilities in Abu Dhabi and the UAE. He has served as the national security adviser for the UAE since 2016 and, from this position, he has played a crucial role in addressing pivotal issues, including foreign relations crises and the response to Covid-19. Additionally, he has been implicated as being responsible for the cyberwarfare campaign orchestrated by the UAE in 2017 against dissident individuals and institutions both within and outside the region.[335]

In recent years, Tahnoun has emerged as one of the most influential financial leaders in the UAE. He manage investments amounting to billions of USD in both public and private companies. In 2020, he was appointed to the board of the new Supreme Council for Financial and Economic Affairs. This council was established to oversee Abu Dhabi's financial and economic policies, as well as its petroleum and natural resource affairs. [336] Alongside his role at ADQ, Tahnoun was named chairman of the ADIA in September 2023. ADIA boasts 853 billion USD in AUM, making it the largest SWF in the region.[337]

In addition to these public roles, Tahnoun serves as chairman of FADB and Group G42. Furthermore, he leads the Royal Group, a private company associated with the royal family that operates through subsidiaries in various sectors. The Royal Group holds a 61.2% stake in the International Holding Company (IHC), which is also chaired by Tahnoun.[338] IHC is the majority shareholder of Multiply Group, P.J.S.C., which in turn holds a 5.1% interest in TAQA, meaning that he and his family are the second-largest shareholders in that entity after ADQ, which

[334] ADQ is not a member of the One Planet SWF Initiative, but it has a strict Sustainable Finance Framework, which is in alignment with Abu Dhabi's Environment Vision 2030, in addition to the UAE's Energy Strategy 2050 and Green Agenda 2030. See: ADQ, "Sustainable Finance Framework," September 2023, assets.website-files.com/63159b6a1b1c7641eaae3d7f/64f811970a8ce-1f3a1305a07_ADQ_Sustainable%20Finance%20Framework.pdf, p. 17.

[335] International Consortium of Investigative Journalists, "Tahnoun bin Zayed Al Nahyan," Pandora Papers, projects.icij.org/investigations/pandora-papers/power-players/en/player/Tahnoun-bin-zayed-al-nahyan; and, Karen De Young and Ellen Nakashima, "UAE orchestrated hacking of Qatari government sites, sparking regional upheaval, according to U.S. intelligence officials," *Washington Post*, 16 July 2017, www.washingtonpost.com/world/national-security/uae-hacked-qatari-government-sites-sparking-regionalupheaval-according-to-us-intelligence-officials/2017/07/16/00c46e54-698f-11e7-8eb5-cbccc2e7bfbf_story.html.

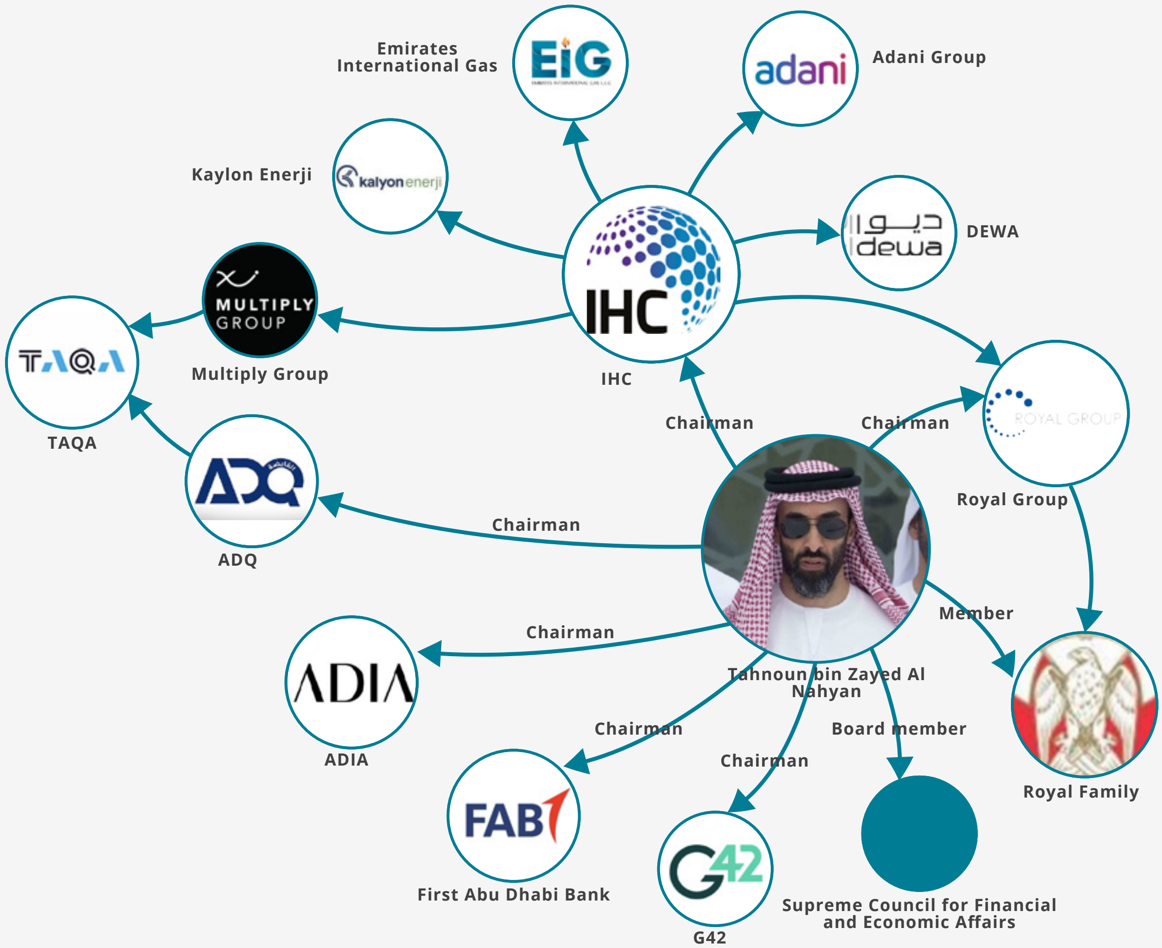
[336] IHC, "Our Leadership," www.ihcuae.com/about-us/our-leadership.

[337] "Gulf Royal's $1.5 Trillion Empire Draws Bankers and Billionaires," *BNN Bloomberg*, 5 September 2023, www.bnnbloomberg.ca/gulf-royal-s-1-5-trillion-empire-draws-bankers-and-billionaires-1.1967092.

[338] IHC, "Our Leadership," www.ihcuae.com/about-us/our-leadership.

he also directs. Multiply Group has made large investments in the technology sectornand high-profile companies such as Rihanna's Savage X Fenty.

Figure 52. Tahnoun bin Zayed Al Nahyan, key positions in public and private entities



Source: Empower, 2023.

With Tahnoun leading Abu Dhabi's major funds, the lines between public enterprises and the royal family's business interests are becoming increasingly blurred. For example, in March 2023, ADQ and IHC announced their collaboration to establish a new investment management firm specializing in alternative investments. The joint venture, the name of which has not yet been disclosed, will manage assets from ADQ's Alternative Investments platform, the Abu Dhabi Growth Fund (ADG), and IHC, as well as capital from external shareholders and institutional investors. The U.S. private equity and venture capital firm General Atlantic is participating in this venture as an investor and partner.[339]

[339] ADQ, "ADQ and IHC to create the largest independent investment manager in the MENA region," 6 March 2023, www.adq.ae/newsroom/adq-and-ihc-to-create-the-largest-independent-investment-manager-in-themena-region.

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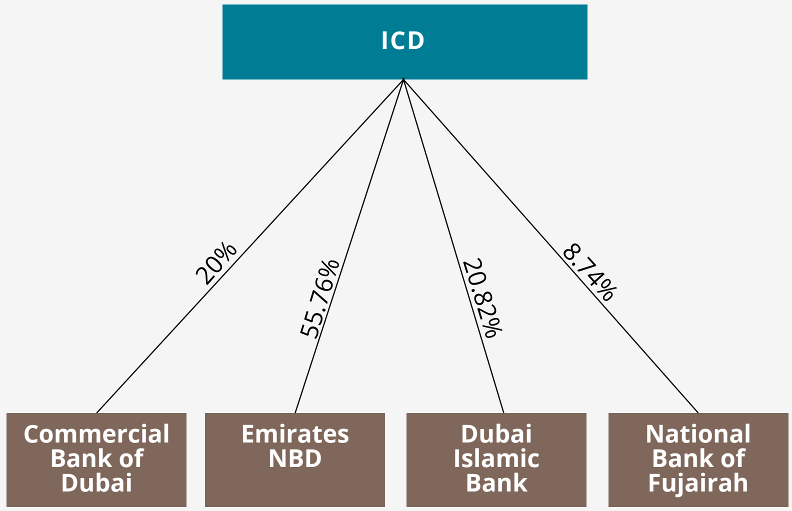
Investment Corporation of Dubai

ICD was created in 2006 with assets from the investment division of Dubai's Department of Finance. Its mandate is to manage Dubai's government portfolio of commercial companies and investments.[340]

In contrast to Abu Dhabi's SWFs, ICD has a relatively low level of activity in the energy sector and is not positioned as a leader of the energy transition. This difference may be attributable to the dominant presence of Abu Dhabi's companies in the UAE's energy sector. ICD's portfolio is mainly concentrated in banking and finance (66%), with a smaller portion allocated to transportation (19%), in which Emirates Airlines is the major asset. Oil and gas constitute only 4% of its assets.[341]

ICD's major investment in oil and gas is its 100% stake in Emirates National Oil Company (ENOC), which, in 2022, represented around 29% of ICD's revenue.[342] ENOC operatesn throughout the oil and gas value chain, mainly in MENA.[343] Additionally, ICD owns ALEC Group, which in turn owns ALEC Energy, a solar energy development company. In 2022, ALEC acquired Target Engineering, which specializes in infrastructure construction for oil and gas exploration and power generation.[344] ICD also has a 19% stake in Sinoway Holdings Limited, a calcined petroleum coke company based in Beijing.[345]

Figure 53. ICD ownership of companies financing key MENA energy projects



Source: Empower, 2023.

[340] ICD, "About," icd.gov.ae/about-icd.

[341] ICD, "Annual Report 2022," icd.gov.ae/wp-content/uploads/2023/08/ICD-AR2022-Full-Report-230607.pdf, p. 11.

[342] ICD, "Annual Report 2022," icd.gov.ae/wp-content/uploads/2023/08/ICD-AR2022-Full-Report-230607.pdf, p. 11.

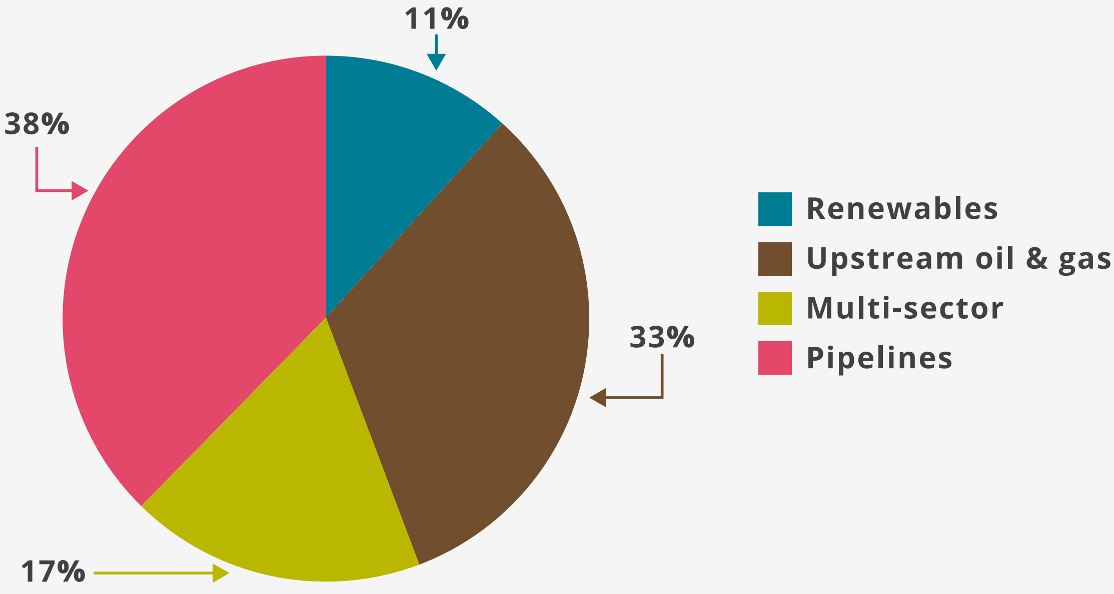
[343] ENOC, www.enoc.com/en.

[344] ALEC, "About ALEC," alec.ae/about-alec; ALEC Energy, www.alecenergy.ae; Target, www.target.ae; and, ICD, "Annual Report 2022," icd.gov.ae/wp-content/uploads/2023/08/ICD-AR2022-Full-Report-230607.pdf, p. 87.

[345] ICD, "Dubal Holding," icd.gov.ae/portfolio/dubal-holding.

Empower identified financing totaling approximately 2 billion USD from ICD for the period 2019-26, all in the form of debt extended by ICD-owned banks acting as lenders and bond underwriters (see Figure 53).

Figure 54. ICD projected and executed energy finance (2019-26)



Source: Empower, with data from APICORP and IJGlobal.

ICD does not disclose specific green investment commitments beyond a general ESG framework and is not a member of the One Planet SWF Initiative.[346] However, it is important to note that the financial institutions in which ICD is the largest shareholder, such as the Commercial Bank of Dubai (CBD), Emirates NBD, and the Dubai Islamic Bank (DIB), do have sustainable finance commitments. Notably, the DIB Sustainable Finance Framework excludes the financing of "coal or gas-fired power generation and distribution assets." [347] This regulation could be used as an example for pressuring other local banks to follow the ban on gas power.

Key leaders and alliances

ICD's board is controlled by Dubai's ruling family. It is chaired by the crown prince of Dubai, Hamdan bin Mohammed bin Rashid Al Maktoum. His brother, Maktoum bin Mohammed bin Rashid Al Maktoum, who also acts as deputy ruler of Dubai, serves as vice-chairman.[348]

[346] ICD, "ESG & CSR," icd.gov.ae/corporate-social-responsibility.

[347] ICD, "Sustainable Finance Framework," 2022, www.dib.ae/docs/default-source/disclosures/dib-sustainablefinance-framework-2022.pdf, p. 10.

[348] ICD, "About ICD," icd.gov.ae/about-icd/#chairman_section.

The managing director is Mohammed Ibrahim Al Shaiban, the director general of the Dubai Ruler's Court, a government body which, among other entities, includes the Department of Finance. Al Shaiban is also the head of the DIB, majority-owned by ICD. [349] Another relevant board member is Ahmed bin Saeed Al Maktoum, who is also a member of Dubai's ruling family and has been the head of Emirates Airlines and the Dubai Department of Civil Aviation since 1985. Ahmed is also chairman of Dubai Holding, a private-owned investment company.[350]

[349] DIB, "H. E. Mohammed Al Shaibani," www.dib.ae/about-us/leadership-team/board-of-directors.

[350] Dubai Holding, "HH Sheikh Ahmed bin Saeed Al Maktoum," dubaiholding.com/en/who-we-are/leadership/hhsheikh-ahmed-bin-saeed-al-maktoum.

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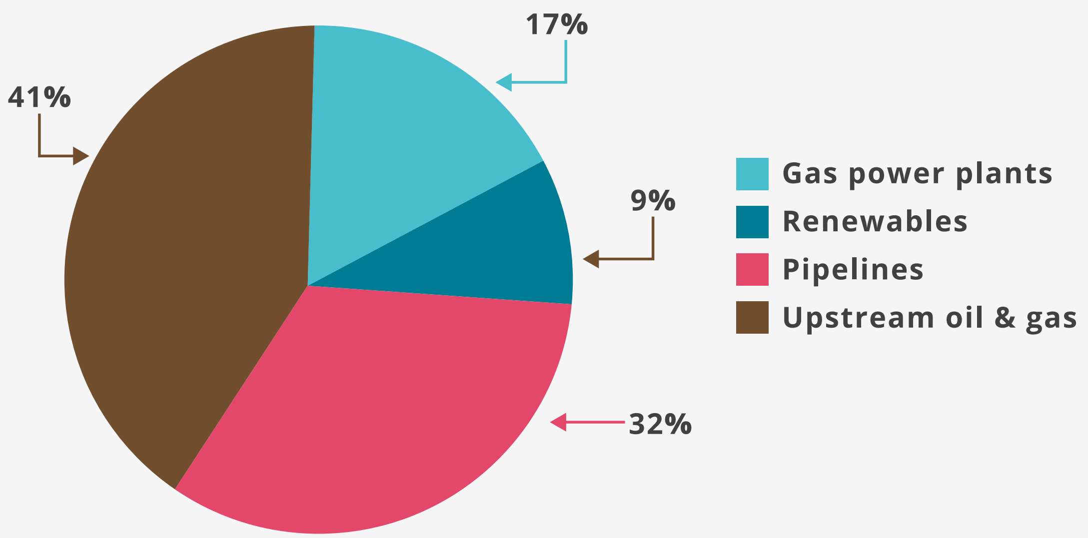
Annex 3. Kuwait Investment Authority

Created in 1953, KIA is the oldest SWF in the world and currently ranks as the secondlargest in MENA and fifth-largest globally.[351] The fund's primary objective is to attain a longterm investment return on revenue from oil and gas, which, in the case of Kuwait, accounts for nearly 90% of government revenue.[352]

KIA does not proactively disclose any information about its activities, making it difficult to map its assets, partnerships, or investments plans. However, Empower identified capital flows of around 2.5 billion USD coming from KIA for MENA energy finance from 2019-26, including executed and projected equity, debt, and bond underwriting by KIA-affiliated banks (see Figure 55).

Figure 55. KIA projected and executed energy finance (2019-26)



Source: Empower, with data from APICORP and IJGlobal.

KIA manages the General Reserve Fund (GRF), which contains the State's oil and gas revenues and encompasses all government assets, including its stake in public enterprises, as well as its participation in multilateral and international organizations. The assets and income of the GRF are accessible to the State of Kuwait and are utilized to cover budget expenditures. To ensure

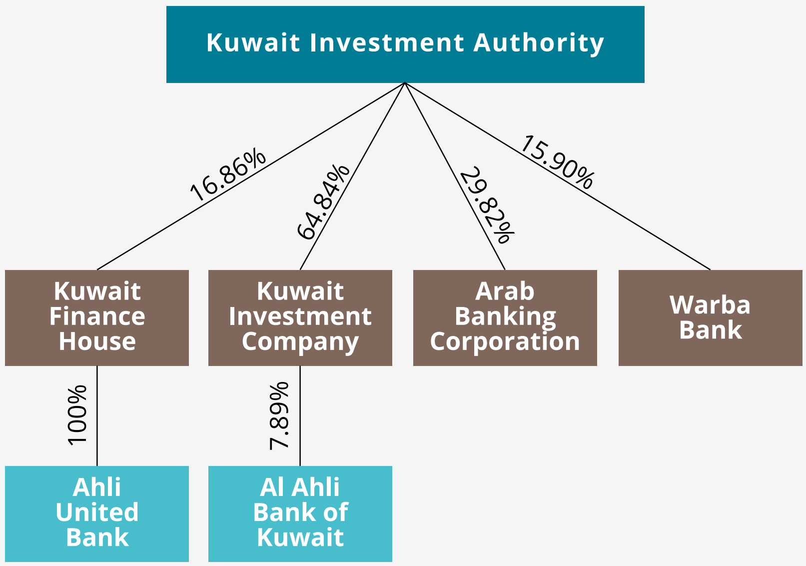
[351] SWF Institute, "Top 100 Largest Sovereign Wealth Fund Rankings by Total Assets," www.swfinstitute.org/fund-rankings/sovereign-wealth-fund.

[352] U.S. Department of State, "2022 Investment Climate Statements: Kuwait," www.state.gov/reports/2022-investment-climate-statements/kuwait.

inter-generational savings, the KIA has established the Future Generation Fund, which is funded through a variety of investments outside Kuwait, including equities, bonds, private equity, real estate, and infrastructure.[353]

Kuwait's government has set a target to achieve net-zero emissions by 2060 and, as part of its New Kuwait Vision 2035, it aims for economic diversification to reduce reliance on oil.[354] However, KIA's stance on climate change has not been made public and the SWF does not provide information about its activities or ethical standards, leaving little evidence of its role in Kuwait's energy transition. Despite being a founding member of the One Planet SWF Initiative, KIA lags behind other SWFs in terms of its alignment with the initiative's framework. For instance, the KIA's only achievements in 2022 were to "distribute its first internal ESG Risk Report" and "transition its portfolio towards 100% ESG compliance with a primary focus on the E of ESG."[355]

Figure 56. KIA ownership of companies and banks financing key MENA energy projects



Source: Empower, 2023.

Key leaders and alliances

KIA's Board of Directors is composed of members of the Council of Ministers and representatives from the private sector. KIA's leadership has undergone continuous changes in recent years, with the current chairman, Minister of Finance Fahad Al-Jarallah, being the sixth person named to the position in the last three years. This instability is due to the political crisis caused by the

353 KIA,"Investments," www.kia.gov.kw/investments.

354 "Kuwait mobilizes development efforts to transform Kuwait into a financial, cultural, and institutional leader in the region by 2035," *NewKuwait*, no date, www.newkuwait.gov.kw/image/NewKuwait_CampaignLaunchEvent.pdf.

355 One Planet SWF Network, "Framework Companion Document 2022," oneplanetswfs.org/wp-content/pdfjs/web/viewer.html?-file=/download/155/6oct2022/1959/companiondocument_2022.pdf, p. 14.

differences between the prime minister and the cabinet, who are installed by the ruling Al-Sabah family, and the National Assembly. The impossibility of forming parliamentary bodies and cabinets have weakened institutions and regulations, inhibiting the country's energy transition.[356]

The absence of strong leadership within KIA is mainly due to Kuwaiti political turbulence, but there are also internal factors. KIA has been through a leadership crisis since 2021, when Bader Al-Saad, who was a key leader after serving as managing director from 2003- 17, left KIA's board.[357] Al-Saad was named director general of the Arab Fund for Economic & Social Development in 2020 and, since 2019, represents the Kuwaiti government on BlackRock's Board of Directors.[358]

In July 2023, Kuwait announced the creation of a new SWF, called the Ciyada Development Fund. Much like the PIF, Ciyada aims to diversify Kuwait's oil-dependent economy through partnerships with the private sector, focusing on the development of giga-projects and investments in high value-added sectors. Although details regarding Ciyada's structure, funding, and proposed projects have not yet been disclosed, it could assume a prominent and perhaps more transparent role in Kuwait's energy transition.[359]

[356] "Challenges Facing Kuwait's Parliamentary Democracy," Arab Center Washington DC, 12 September 2023, arabcenterdc.org/resource/challenges-facing-kuwaits-parliamentary-democracy; "Kuwait Names Fahad AlJarallah as New Finance Minister," *BNN Bloomberg*, 3 September 2023, www.bnnbloomberg.ca/kuwaitnames-fahad-al-jarallah-as-new-finance-minister-1.1966685; and, Ahmed Hagagy and Lisa Barrington, "Kuwaitis go to the polls again in bid to shift political crisis," *Reuters,* 6 June 2023, www.reuters.com/world/middle-east/kuwaitis-go-polls-again-bid-shift-political-crisis-2023-06-06.

[357] Adrienne Klasa and Andrew England, "Inside the Kuwait Investment Authority: 'It's chaos there now'," *Financial Times*, 28 July 2022, www.ft.com/content/e2d7b536-c4c6-49ee-9a2c-63d6a81cff0f.

[358] BlackRock, "Bader M. Alsaad," ir.blackrock.com/governance/board-of-directors/default.aspx.

[359] SWF Academy, "Kuwait Plans New SWF to Boost Economic Diversification Amid Political Turbulence," 17 July 2023, globalswf.com/news/kuwait-plans-new-swf-to-boost-economic-diversification-amid-politicalturbulence.

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Annex 4. Kuwait Investment Authority

QIA was created in 2005 to manage and invest the State's reserve funds and certain assets assigned by the State. It has the mandate of creating long-term value for future generations and it has committed to directing its investments towards sustainable business.[360]

Qatar holds about 11% of the world's natural gas reserves and, in recent decades, it has been among the top global LNG exporters. Its domestic energy supply also relies on gas power, which represents about 75% of its energy consumption, while renewables account for less than 1%.[361] In this context, the Government of Qatar has argued that a "realistic" energy transition must rely on gas power.[362] Unlike other national strategic plans in the Gulf countries, Qatar National Vision 2030 (QNV2030) neither emphasizes investment in green energies nor establishes an emissions reduction goal. Instead, it is centered around ideas for exploiting hydrocarbons more efficiently and fully developing its gas industry as a source of "clean" energy for Qatar and the rest of the world.[363]

Despite the Qatari government's dissonance regarding the energy transition, in 2020 QIA committed to make no new investments in fossil fuels.[364] 46% of its power generation assets are renewables.[365] However, QIA does not publish annual reports or other documents with information about specific emissions commitments or data about its progress on sustainability goals.

Despite QIA's commitments, its subsidiaries keep investing in fossil fuels. Empower identified capital flows of approximately 1.6 billion USD coming from QIA for MENA energy finance from 2019-26. These flows correspond exclusively to debt emitted by QIA-affiliated banks acting as lenders and bond underwriters. The identified financing is notably focused on upstream (88%), while renewables constitute just 12%.

[360] QIA, "History," www.qia.qa/en/About/Pages/History.aspx; QIA, "Sustainability," www.qia.qa/en/About/Pages/Sustainability.aspx.

[361] U.S. Energy Information Administration, "Country Analysis Brief: Qatar," 20 March 2023, www.eia.gov/international/content/analysis/countries_long/Qatar/qatar.pdf.

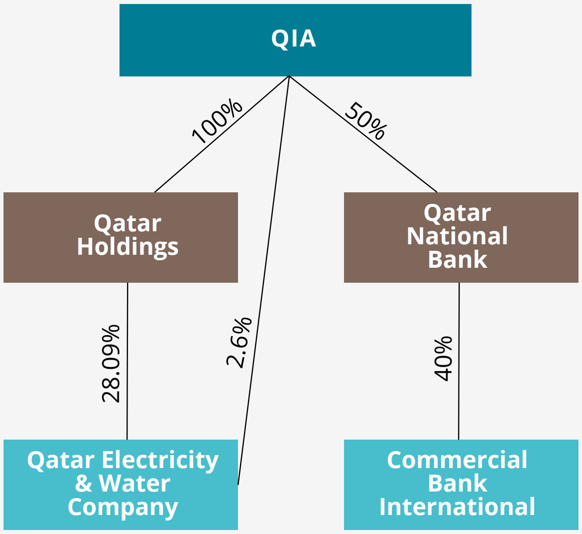
[362] "Qatar energy minister says natural gas needed as baseload for 'realistic' energy transition," *S&P Global*, 18 July 2023, www.spglobal.com/commodityinsights/en/market-insights/latest-news/lng/071823-qatar-energyminister-says-natural-gas-needed-as-baseload-for-realistic-energy-transition.

[363] General Secretariat for Development Planning, "Qatar National Vision 2030," July 2008, www.gco.gov.qa/wpcontent/uploads/2016/09/GCO-QNV-English.pdf, p. 28.

[364] QIA, "History," www.qia.qa/en/About/Pages/History.aspx.

[365] QIA, "Sustainability," www.qia.qa/en/About/Pages/Sustainability.aspx.

Figure 57. QIA ownership of companies and banks financing key MENA energy projects



Source: Empower, 2023.

QIA also holds relevant investments abroad in oil and gas exploitation and infrastructure. It holds a 20.59% stake in the Russian Rosnef Oil Company (MISX:ROSN), which produces around 40% of Russian oil and 8% of its gas.[366] Also, in October 2023, QIA, together with PIF and the Belgian Fluxys group, acquired 30% of OQ Gas Networks, the gas pipeline subsidiary of Oman's State-owned oil company, OQ. The public offer for OQ Gas Networks is part of a privatization program launched by the Oman government in order to raise capital and revitalize its stock exchange.[367]

Key leaders and alliances

QIA's board is named and supervised by the Supreme Council for Economics Affairs and Investment of Qatar (SCEAI), which is chaired by Tamim bin Hamad Al-Thani, the emir of Qatar.[368] Currently, there are three members of the ruling family of Qatar on the board of QIA, including its chairman, Bandar bin Mohammed bin Saoud Al-Thani, who was appointed in May 2023 after his predecessor, Mohammed bin Abdulrahman Al-Thani, was designated as prime minister.[369] In addition to his position at QIA, Bandar bin Mohammed bin Saoud AlThani is the governor of the Qatar Central Bank and has built his career in the financial and regulatory sector.[370]

366 Rosneft, "History," web.archive.org/web/20231019125025/https://www.rosneft.com/about/History.

367 Julia Fioretti, "OQ Gas Networks Soars After $749 Million IPO," *Bloomberg*, 24 October 2023, www.bloomberg.com/news/articles/2023-10-24/oq-gas-networks-soars-14-in-muscat-after-749-million-ipo.

368 QIA, "Governance," www.qia.qa/en/About/Pages/Governance.aspx.

369 The Ministry of Foreign Affairs, "HE Sheikh Mohammed bin Abdulrahman Al-Thani," www.mofa.gov.qa/en/theministry/organizational-structure/deputy-prime-minister-and-minister-of-foreign-affairs.

370 QIA, "Leadership," www.qia.qa/en/About/Pages/leadership.aspx.

The CEO of QIA, since 2018, is Mansoor Ebrahim Al-Mahmoud. Experienced in finance and international relations, Mansoor is pushing QIA towards the U.S. and Asian markets and strengthening the fund's participation in tech companies and green energy.[371]

QIA is in the middle of an expansion phase focused on the U.S. and Europe. For example, in 2022, the fund contributed 372 million USD to Elon Musk's acquisition of Twitter (now X), raising concerns about the possibility of Qatari government influence over the social network or access to user data.[372] More recently, in May 2023, QIA, together with BlackRock and Temasek, joined a 460 million USD fundraising round by Ascendant Elements, a startup that manufactures sustainable battery materials for electric vehicles.[373] Finally, like other SWFs, QIA is also expanding its interests in the sports business. In July 2023, it acquired a 5% stake in Monumental Sports & Entertainment (MSE), owner of the National Hockey League (NHL), basketball teams, and sports media.[374]

[371] "Qatar's Top Dealmakers Get Ready for a Spending Power Boost," *BNN Bloomberg*, 12 June 2023, www.bnnbloomberg.ca/qatars-top-dealmakers-get-ready-for-a-spending-power-boost-1.193181

[372] Giacomo Tognini, "Qatar's Backing Of Elon Musk's Twitter Deal Raises Questions Ahead Of The FIFA World Cup," *Forbes*, 12 November 2022, www.forbes.com/sites/giacomotognini/2022/11/12/qatars-backing-of-elonmusks-twitter-deal-raises-questions-ahead-of-the-fifa-world-cup/?sh=3944d6dc709a.

[373] Razak Musah Baba, "BlackRock, Temasek and QIA invest in battery materials manufacturer," *IPE Real Assets*, 6 September 2023, realassets.ipe.com/news/blackrock-temasek-and-qia-invest-in-battery-materialsmanufacturer/10068685.article.

[374] Monumental, "Monumental Sports & Entertainment Announces Qatar Investment Authority as Minority Investor," 10 July 2023, monumentalsports.com/2023/07/monumental-sports-entertainment-announcesqatar-investment-authority-as-minority-investor.

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