MENA ENERGY INVESTMENT OUTLOOK 2020-2024

2020

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About APICORP:
The Arab Petroleum Investments Corporation (APICORP) is a multilateral development financial institution established in 1975 by an international treaty between the ten Arab oil exporting countries. It aims to support and foster the development of the Arab world’s energy sector and petroleum industries. APICORP makes equity investments and provides project finance, trade finance, advisory and research, and its headquarters is in Dammam, Kingdom of Saudi Arabia.
Foreword

The triple crisis—health, economic and potentially financial—currently affecting the world, led to sharp cuts in capital expenditures, practical restrictions to projects and supply chains—Asian shipyards or specialized engineering from the Lombardy region in Italy—and a wider restructuring of the sector. Entering 2020, MENA countries had substantial financial reserves, almost USD1tn, and some countries were even underleveraged. Yet with governments mobilizing extensive stimulus packages to fight the direct and indirect effects of the COVID-19 pandemic, the five-year energy investment plans, even if reduced by 20%, will still require substantial input from a bearish private sector. The current vicious circle of low revenue, low investment, low output needs to be broken, and a virtuous cycle of investments in lower cost, lower-carbon, sustainable assets needs to be introduced.

APICORP’s MENA Energy Investment Outlook provides a much-needed cross-sectoral view of committed and planned investments in energy across the Middle East and North Africa (MENA) region. We deliberately focus on actual investment commitments because they provide a more precise outlook for the energy community on future capacity and possible production levels in the MENA region, as well as offering an additional angle on each country’s energy policies. We also deliberately focus on a five-year horizon because it enables us to capture lead times and planning cycles for most parts of the energy supply chain.

For the financial community, including APICORP and our partners, our characterization of planned investments enables us to identify projects where funding support is still needed. Also, this enhances the understanding of the risks associated with these projects, whether political, commercial, industrial, technological or climate change related. Produced in support of APICORP’s corporate strategy, the MENA Energy Investment Outlook is our flagship publication and is at the heart of our mandate: our role is to facilitate private sector involvement and financing in the energy sector.

The MENA Energy Investment Outlook is a living, open platform, fed with the insights of an engaged community and published as a neutral fact-based contribution to enrich the energy debate. We invite you to share your comments and feedback with us, in addition to any projects or investment opportunities you would like us to showcase in the upcoming sectoral deep-dive outlook reports this year and future annual outlooks.

Dr. Ahmed Ali Attiga
Chief Executive Officer
APICORP
This year’s investment outlook was developed amid the triple whammy facing the world: the COVID-19-related health and economic crisis, the tensions between market forces and management in the oil sector, and a possible looming financial crisis. In the financial sector, banks’ balance sheets, with relatively higher bank capital ratios of 12-14%, compared to 7-8% in 2008, are expected to mitigate the long-term impact of the current crisis. However, banks with the highest exposure to affected sectors, such as airlines, transportation, cross-border supply chain industries, parts of energy, retail, entertainment, cash-based SMEs, will face significant difficulties. Consolidations might occur in fragmented bank markets. In the energy sector, we expect a restructuring of the value chain in favour of producers, both countries and companies, in the best fiscal position and the least leverage, capable of preserving their long-term value proposition. Capital costs are cut across the board by at least 20%, particularly in oil and gas, opening the door for a possible wave of additional integration and mergers and acquisitions.

The private sector’s share in energy project investments, which had climbed to 22% in last year’s outlook, dipped to 19%.

The gas value chain registered the highest increase in planned investments compared to the 2019 outlook at USD28bn, or 13%, as shown in the graph below, signaling the developing of unconventional gas, namely Jafura, Hail & Ghasha in GCC, and increasing production capacity in Qatar, Egypt and Oman.

The power sector meanwhile registered a USD114bn decline due to the commissioning of several projects during 2019 in Egypt, the UAE and Saudi Arabia.

Oil planned investments also declined due to the completion of several capacity increase projects during 2019.
Despite the 2020 crisis, it is worth noting that we did not consider for now major changes in petrochemicals investment plans: e.g. Amiral, Saudi Arabia; Borouge, UAE; and Egypt’s Western Desert petrochemicals cluster and Suez Economic Zone specialty petrochemicals plant.
### MENA 2020-24 Committed Projects by Industry

- **Total**: 343 USD BN
- **Oil**: 41%
- **Power**: 27%
- **Gas**: 26%
- **Chemical**: 6%

Source: APICORP

### Committed MENA Energy Investment (USD Bn)

![Graph showing the committed MENA energy investment by country and sector]

Source: APICORP

### MENA 2020-24 Planned Projects by Sector

- **Total**: 466 USD BN
- **Power**: 32%
- **Gas**: 27%
- **Chemical**: 20%
- **Oil**: 22%

Source: APICORP

### Planned MENA Energy Investment (USD Bn)

![Graph showing the planned MENA energy investment by country and sector]

Source: APICORP
2020: A tough start with three compounded crises

Episode 1: A Health Crisis

2020 presented an unprecedented global challenge—unprecedented by the scale and speed of the viral transmission. At the end of 1Q2020, most countries were facing the same dilemma: maintaining economic activity risking massive loss of lives or curtailing the rate of virus spread, “flattening the curve”, through lockdowns and social distancing at the expense of the economy. This dilemma called for uncoordinated trade-offs among countries, while the resumption of travel and trade will require coordination.

There is a consensus that the world will face a severe recession, but the basis of this consensus is incomplete. Economists are used to modeling pandemics as one-off events that carry no long-term structural impact on productive capacity—unlike wars or natural disasters. Preliminary projections, by the IMF and other global institutions, expect GDP in 2020 to contract by 3% globally and 1% for Emerging Markets. These assessments mainly model the direct impact of lockdowns, reduction in transportation and slowdown in most aspects of economic sector activity – notable exceptions being pharmaceuticals, ICT and the food & beverages sectors.

Measuring the indirect impact might lead to downward revisions to these outlooks. The second- and third-round effects stem from businesses defaulting or going bankrupt, mass layoffs, non-performing loans in banking, precautionary savings, negative demand shock and lower consumer spending, delayed investment decisions, lower FDI and supply-side obstacles. Past pandemics, such as the Black Death of 1348 or the Spanish flu of 1918-1919, provide limited modeling insights because they do not take into account the resilience of societies in a modern globalized economy that is inextricably intertwined with China and quite unprepared for pandemic risks.

Current projections extend shutdowns to 4Q2020 in countries considered today as extreme cases, but plans are increasingly flexible and, more importantly, reversible. New outbreaks in China, Germany and South Korea highlighted the challenge faced by governments loosening social restrictions. The dilemma is even more intricate in countries relying on the summer tourist season. In the absence of a vaccine, which is reportedly still 12-18 months away, five measures were pursued: social distancing, contact tracing, testing, isolation and treatment. Of these, contact tracing is the one raising the most hope and controversy globally due to privacy and data utilization concerns. Intensive R&D collaboration efforts are underway to test the efficacy of Bluetooth-based applications.

Episode 2: An Oil Crisis

At the time of writing, there was a broad consensus that the decline of oil prices has been driven by the surplus buildup pre-COVID-19 and by a historic demand contraction due to the lockdowns and travel restrictions. Indeed, this is the largest oil demand contraction in history (-22 MMbd for 2Q2020), and a big reason why there has been the precipitous decline in demand for transportation-related products. How long it will last will depends on how countries decide to manage their situations because resumption of international travel requires coordination between countries.
The first consequence is a possible restructuring of the oil and associated gas industry, accelerating closure of the lowest efficiency parts of the capital stock (producing assets and companies), and mergers and acquisitions (M&As). Barrels with high operating costs and limited storage access would shut in first. There are plenty of low-opex barrels competing for a diminishing market. Storage infrastructure, onshore, offshore and floating is being tested like never before, and tankers’ rates have soared with spot prices topping USD300,000/day. One useful rule of thumb: every USD5 contango justifies 6 months of floating storage at USD50,000/day. In the first week of May, it was reported that parts of the global oil inventories, onshore and on-water, declined 2.2 million barrels and 12 million barrels against end-April indicating the beginning of market adjustment.

During the month of May and first half of June, it is expected that 2.5-3.5 MMbd would be shut in across North America—on par with Saudi Arabia and Russia’s commitments. Oil and gas services already shed 1 million jobs. In fact, the triple crisis affecting the world leads to sharp cuts in capital expenditures, practical restrictions to projects and supply chains—for example, Asian shipyards, specialized engineering from Italy’s Lombardy region—as well as a wider restructuring of the sector.

One outlook for oil prices could therefore see Brent prices average USD30-40 in 2020 and 2021 before reflecting a more balanced market.
There is no consensus however on demand elasticities. This will be determined by the length of the lockdowns—particularly if governments are concerned about a possible second wave—and by potential structural impacts on productive capacity in the wider economy, as well as by potential structural demand behavioral changes post-COVID-19. Notwithstanding major differentials between crudes and discrepancies between physical and futures markets, one outlook for oil prices could therefore see Brent prices average USD30-40 in 2020 and 2021 before reflecting a more balanced market.

**Episode 3: A Financial Crisis?**

A global liquidity crunch is taking hold as more financial assets lose their value. Central banks and multilaterals are stepping up. The IMF announced a USD500mn grant-based debt relief and the G20 announced a time-bound suspension of debt service payments for the poorest countries that request forbearance. They are also exploring proposals to increase allocations of SDRs—in 2009, USD1tn was injected in the global economy, including USD250bn of additional SDRs. The EU, which announced a USD500bn agreed package but requires another USD500bn, is set to decide on whether to reject common bonds (corona bonds) or to tap the European Stability Mechanism and European Investment Bank’s loan guarantees.

However, there are concerns that massive stimulus plans might create enormous unproductive debt overhangs slowing economic growth. In Emerging Markets, there are increasing concerns about countries’ varied ability to tap markets, including within MENA. While GCC countries were able to issue nearly USD25bn of 4-6 times oversubscribed bonds, other MENA countries are struggling with increasing bond yields facing the one-two punch of economic recession and depressed oil and gas prices. Even the GCC countries outside of Oman and Bahrain, with higher ratings, witnessed +55-100 bps increase in their Credit Default Swaps (CDS) spreads since April 2020.

While GCC countries were able to issue nearly USD25bn of 4-6 times oversubscribed bonds, other MENA countries are struggling with increasing bond yields facing the one-two punch of economic recession and depressed oil and gas prices.
January, with indicative ASW levels for maturities in 2026/2027 at 125-175 bps. Issuers based in Oman or Bahrain for instance may face obstacles in refinancing their maturing debt or deficits. Bahrain (B+, S&P) offered 10-year bonds yielding 7.375%.

In addition to bonds and scaling back spending, a few countries were able to tap into their large foreign assets to cover current account, inject dollar liquidity in banking systems and offset capital flight. Saudi Arabia announced a deficit of SAR34bn (USD9bn) for 1Q2020 as oil revenue fell by 24% y-o-y to SAR129bn and non-oil revenue by 17% -- and that is just for one quarter. As such, Saudi Arabia projected a deficit of SAR187bn for this year, or 6.4% of its GDP.

There are some bright spots outside of the GCC; Morocco, for example, maintained its S&P investment grade rating and is believed to be able to contain the adverse economic and fiscal impact of the pandemic.

As the world comes to grips with the longer-term implications of 2020’s triple whammy, some structural and interconnected changes could unfold in the following areas:

- **Geopolitics, finance and monetary**: More nationalism and protectionism? Austerity measures that will spur cooperation, particularly regional? Decoupling of U.S.-China, among others? Currency debasement and increasingly unconventional monetary policies?

- **Macroeconomics, trade**: Relocation/re-shoring of global value/supply chains closer to consumers? Emergence of other low-cost manufacturing centers? More government intervention in economy and social spheres? A possible prolonged stagflation, and a globalized one?

- **Technology, privacy, consumer behavior**: Distributed tracing and immunity certification done voluntarily through mobile technology, or through centralized government-enforced means? "E-health" further challenging traditional business and lifestyle norms, with more e-commerce and remote working, in advanced economies with aging populations and in emerging countries with young connected populations? Digitization and automation putting downward pressure on wages—particularly if jobs are on-shored back to high-cost centers?
MENA Economies: Mixed paths towards recovery, with some resilience

The MENA region will be affected on multiple fronts: reduced revenues in oil and gas, disrupted supply chains and deteriorating credit quality—particularly for companies in vulnerable sectors including energy. Notably, most sectors are vulnerable, except for pharmaceuticals, ICT and food & beverages.

The impact will vary widely between countries depending on the share of non-oil private sector (PMI growth record low in Saudi Arabia in March 2020), Hajj/tourism impact, trade constraints, consumer spending and unemployment policies—particularly in countries with virus-affected migrant worker camps. The World Bank also saw remittances to medium- and low-income countries drop 20% globally. The GCC has earmarked more than USD120bn in the form of economic stimulus packages, while Egypt reserved USD7bn in stimulus across several sectors. However, as in other parts of the world, questions around the specifics of the transmission mechanism by which these packages will find their way to the real economy are to be subdued. After credit risk premiums increased by at least 80-100 bps in March even for AA-rated countries, the market seems to forecast a W-shaped recovery* for most of the region, except in countries facing severe risk of instability.

Indeed, the resilience of oil and gas producers goes beyond simplistic so-called break-even oil prices. Fiscal break-even oil prices can provide a snapshot of the most vulnerable countries and possible budget rationalization measures. However, they should not be construed to project oil and gas production strategies. Producers in the best fiscal position will race to preserve their long-term value proposition, by alternating market management and volume maximization, with the view of returning maximum value to their respective shareholders. They will use the flexibility of their discretionary budgets as required. At the time of writing, Saudi Arabia cut budget spending by USD26bn, suspended cost of living allowance, increased VAT from 5 to 15% and revised the benefits of government contractors. It also transferred USD40bn in foreign reserves to the Public Investment Fund to finance multiple investments.

Major energy companies face a similar dilemma. On the one hand, they are compelled to adhere to their dividend policies for as long as possible to preserve the value proposition to their respective investors, but this comes at a time where share prices fell by 20-30% year-to-date. Planned upstream spending has been cut by 20-30% across the board among the majors, National Oil Companies and large Independents as compared to 2020’s initial figures—with the exception of Occidental. In the MENA region, Saudi Aramco is maintaining its cash dividends of at least USD75bn in 2020.

* As opposed to the best-case V-shaped recovery (a single sharp dip followed by a sharp rebound), a W-shaped recovery refers to an economic cycle of recession and recovery that features a double dip that resembles the letter W when charted. Other shapes include the U-shaped or the L-shaped recovery.
2019 was a record year for new LNG project announcements, even excluding Qatar’s recent drive. That said, a combination of weaker gas demand and falling gas prices has jolted these plans. Globally and in MENA, we expect the majority of LNG final investment decisions (FID’s) to be postponed to 2021, at best. The truth is that of the +700 mmtpa of active LNG proposals, 55% of LNG capacity aiming to reach FID in 2020 were US projects. Qatar was next at 15%. In general, planned projects face delays because of local workforce disruption, delays in selection of contractors and partners, closure of Asian modules fabrication facilities and travel restrictions.

An oversupplied LNG market with global gas prices at the hubs expected to remain below USD4/MMBtu for 2020 and below USD6/MMBtu during 2021 discourages players to pursue additional gas developments. They prefer to postpone FIDs wherever possible. However, in the region, the majority will stick to gas development plans for domestic or strategic reasons.

A decrease in industrial demand is testing several countries’ gas plans. Egypt’s LNG exports were already challenged with high feed gas prices at around USD4.5 / MMBtu, as compared to their export netback parity. Egypt’s gas output collapsed to a 19-month low of just 6 bcfd for February on enforced shut-ins. LNG exports fell to just 253 mcfd for February—a quarter of late-2019 levels—and to zero since the last cargo loaded in mid-March. The unconventional gas projects in Saudi Arabia and the UAE, worth a combined USD100bn, will be increasingly scrutinized if lower-than-expected demand materializes with a prolonged economic downturn.

On the other hand, oil production cuts during 2020-2021—Saudi Arabia in particular—will also expedite the need to push through with developing non-associated gas reserves. Algeria will enter a phase of contract negotiations as a large share of its oil-linked LNG contracts, 6mmtpa, are expiring during 2020-2024. Algerian LNG exports declined to 2.73 mmtpa in Q1 2020, down from 3.1 mmtpa a year earlier and the three-year average for the period of 2.86 mmtpa, while Oman and Qatar have 6.66 mmtpa and 20 mmtpa expiring within the 2020-24 horizon, respectively. Renewing these contracts will require price and volume renegotiations—all in a buyer’s market.

A clear disconnect is evident between LNG investment decisions and firmly committed demand. As detailed in our MENA Annual Energy Investment Outlook from last year, the so-called “portfolio” model is steadily changing the way LNG projects are financed, with large, well-capitalized players willing to use their balance sheets instead of relying entirely on the security of long-term purchasing contracts. Therefore, for the MENA region’s LNG players, more aggressive marketing and proactive business development will be key. For this current outlook, we assumed that, albeit with a delayed FID, Qatar will maintain its plan to increase its liquefaction capacity to 126 mmtpa (170 bcm/y), up from 77 mmtpa (105 bcm/y) today, capitalizing on its low-cost position. Moreover, the country will want for strategic reasons to gain and preserve market share, particularly in the established Asian market and in new markets. In 2019, Qatar maintained its top exporter status with 77.8 mmtpa, edging Australia by just 2.4 mmtpa, in a global liquefaction capacity market of 427 mmtpa.
Global Petrochemicals: Volatile outlook with short-term downward pressures

The petrochemical sector has enjoyed several years of sustained investment boom driven by higher industry margins, US shale growth and bullish demand forecasts. Between 2017 and 2019, investments in petrochemicals worldwide exceeded USD20bn annually, largely in China and North America. 2020 paints a mixed and complex picture for the sector.

Countrywide lockdowns and quarantine policies increased demand for FMCGs, particularly for packaging materials, PET, PE, and plastic films. Meanwhile, products used in healthcare applications, such as ethanol, glycerine, PET, recycled PET, isopropanol, saw a substantial uptick in business.

On the other hand, methanol demand was clearly reduced for 2Q-3Q2020, driven by manufacturing. Demand for Ethylene’s key derivatives, PE, MEG, PVC and SM, is slowly improving, but crude prices impacted spot ethylene market, and players prefer to take a wait-and-see stance on utilization of existing capacity and new investments. Prices in Asia for linear low-density Polyethylene (LLDPE) and (HDPE) reached historic low levels. Similarly, propylene is in inventory correction, as Polypropylene (PP) converters’ operating rates fell by 40-80% and are slowly improving as China slowly comes back to capacity.

For now, we do not expect major petrochemicals investment programs to be questioned. We maintain our Outlook as we expect countries to seek to consolidate their chemicals strategy, increasing monetization and maximizing value from the hydrocarbons they produce.

Outside the GCC, the picture is more varied. In Iraq, Nebras, a USD11bn petrochemicals complex in Basra, is still struggling as a result of feedstock and feasibility challenges. Egypt is pursuing a new wave of petrochemicals projects led by government owned ECHEM’s USD8.34bn Alamein petrochemicals cluster in addition to the USD3bn specialty petrochemicals complex. The private sector USD10bn Tahrir Petrochemicals Project (TPC) remains stalled due to pending financing issues. On the other hand, Iran has more than USD6bn in committed projects for 2020-24, the execution of which will depend on how the country will manage its exit from the current health crisis.
The 2020 crisis impact on utilities has been largely localized, as the majority were able to deploy teams for rapid intervention to ensure electricity operations continue. Globally and in the region, utilities’ share prices did not decrease as much as oil and gas, partly thanks to a milder decrease in demand for electricity and, in selected countries, government support to pay utilities bills. The sector has not witnessed major credit issues so far, expect in already fragile utilities. However, the impact on investments has been more acute in 2020. Spending on renewable projects and T&D networks were cut due to delays in project development, movement and logistical restrictions and expectations of lower demand.

The MENA region does not seem to be affected so far as renewable auctions were unchanged, namely Saudi Arabia’s Renewable Energy Project Development Office (REPDO) program. In fact, sector reform might possibly be accelerated post COVID-19 with more distributed generation, namely rooftop PV, electricity storage, net-metering, network reinforcement and technology deployment, also referred to as smart metering.

Subsidies reforms are paying off in some countries which were able to manage demand and are even facing surplus capacity, for example Egypt with 45% of baseload as surplus. Investments in Iraq’s power sector are the most uncertain while they dominated this new wave of conventional power spend, followed by Algeria, Saudi Arabia and the UAE. These uncertainties and the 2020 crisis-linked demand revisions are putting back on the table the question of sustainability of future renewable plans, and the ability to attract investments given increasingly competitive prices and margins.

In April 2020, Emirates Water & electricity Co. (EWEC) received the lowest solar tariff recorded globally at 1.35 US cents/kWh for its 2 GW plant in Al Dhafra, Abu Dhabi, while in Saudi Arabia, REPDO’s 2nd bid round concluded with remarkably low tariffs (lowest 1.61 US cents /kWh) received for 25-yr PPAs. With power demand below forecasts, some governments face the dilemma of postponing projects versus meeting renewable targets, such as Egypt and the UAE. Algeria is aiming high with an additional USD11.3bn of solar projects during the next five years.

Cost of storage and intermittency remediation are still high, offsetting low feed-in tariffs. The tension will be particularly high in countries with already fragile utilities which still have to absorb the cost difference such as Jordan and Morocco.
The energy sector is poised for a new wave of consolidations and M&As, particularly in oil and gas services and supply.

In conclusion, the 2020-2024 outlook will be more uncertain given the compounded crises of 2020. There are several areas of upside and downside risks.

Speaking purely in project value terms, Iraq, with the highest committed investments, presents the highest uncertainty as delays or cancellations in the short to medium term are increasingly likely. By contrast, the GCC region’s committed investments increased by 2.3% in this outlook compared to a 6% decrease in the MENA region as a whole, signifying a higher execution rate in the GCC.

From an equity perspective, the energy sector is poised for a new wave of consolidations and M&As, particularly in oil and gas services and supply. Low valuations of listed companies with relatively stable dividend policies increased investors’ appetite, including in the region*. As detailed in recent APICORP reports, this trend was already happening but was accelerated by the current context given the dilemma faced by the energy sector: relatively low shareholders’ returns on the one hand, and squeezed margins across the value chain on the other. For corporate strategies, a low-carbon world and a longer recovery means further integration, optimization and scale. U.S. shale benefited partly from long-term commitments of private equities before undergoing multiple acquisitions by large players. The recent acquisitions by the Saudi Public Investment Fund of the shares of several energy companies is just the tip of the iceberg. Consolidations are very much on the table in the oil field services sector. A few deals are also expected in the utilities sector, albeit with a more region-specific scope.

From a project finance perspective, a W-shaped recovery will accelerate the need to revive export-oriented gas projects and utilities investments. But more generally, financing assets with relatively reliable cash flows, such as renewables, may remain attractive in the face of market volatility.

The reduction in investment outlook—mostly in planned investments—is largely attributed to the 2020 triple crisis. Upstream spending globally is already reduced by 30% in 2020 due to the decline in oil and gas prices, and unprecedented decline in demand. The impact on MENA upstream will be lower than globally, offset by unconventional gas, non-associated gas developments for domestic consumption and strategic market share positioning for exports. Also, needed investments in utilities and petrochemicals should continue.

2020 is expected be more challenging than previous downturns. The impact is already deeper and longer lasting. In the 2015-2016 downturn, investments were cut by 25% p.a. for two consecutive years. The long-term nature of the triple crisis and the profound restructuring in oil and gas will hit energy investments longer, sowing the seeds of supply crunches and price volatility, hence a W-shaped recovery for MENA.

* As opposed to the best-case V-shaped recovery (a single sharp dip followed by a sharp rebound), a W-shaped recovery refers to an economic cycle of recession and recovery that features a double dip that resembles the letter W when charted. Other shapes include the U-shaped or the L-shaped recovery.
2020: A Tough Start with Compounded Crises – Episode 1: A Health Crisis

- Unprecedented global challenge: dilemma between maintaining economic activity risking massive loss of lives vs. lockdowns and social distancing ("flattening the curve") at expense of economy.

- The dilemma called for uncoordinated trade-offs, while the resumption of travel and trade will require coordination.

- The basis of the consensus is incomplete: Economists used to model pandemics as one-off events with no long-term structural impact on productive capacity.

- Preliminary projections expect global GDP to contract -3% in 2020 (IMF) with -1% for Emerging Markets.

- Measuring the indirect impact might lead to downward revisions to these outlooks (defaults and bankruptcies, mass layoffs, Non-performing loans, precautionary savings, negative demand shock. Delayed investment decisions. lower FDI, supply-side obstacles). Current projections extend shutdowns to 4Q2020 in what are considered today as extreme cases (India). Changing fast.

- In the absence of a vaccine (12-18 months needed), five measures were pursued: social distancing, contact tracing, testing, isolation, treatment. Contact tracing applications are the ones raising the most hope and controversy globally.
2020: A Tough Start with Compounded Crises – Episode 2: An Oil Crisis

- Broad consensus: oil prices decline driven by surplus build-up pre-COVID 19 and demand contraction:
  - Largest oil demand contraction in history (-22 MMbd for 2Q2020), driven by transportation products. Length will depend on different countries’ management decisions and coordination
  - High-OPEX barrels with limited storage shut in first, and plenty of low-OPEX barrels competing for diminishing market.
  - Storage (and contango strategy) tested like never before. Tanker rates soared (spot USD300,000/day)

- No consensus on demand elasticities: length of crisis (potential 2nd wave late 2020), potential structural impact on productive capacity (energy & economy), and potential structural demand behavioral changes (Post COVID19)

- The triple crisis leads to sharp cuts in capital expenditures (around 30% globally in 2020), practical restrictions to projects and supply chains (Asian shipyards, specialized engineering from Italy).

- Consequence is possible restructuring of oil and associated gas industry, accelerating closure of the lowest efficiency parts of the capital stock (producing assets and companies), and M&As.

- One outlook for Brent: average USD30-40 in 2020 and 2021 before reflecting a more balanced market.

Global oil inventory supply/deficit from first half 2000 to first half 2020

Note: Supply surplus/deficit is calculated by subtracting global oil (liquids) demand from global oil (liquids) supply.
The largest oil demand contraction in history took place in 2020.
2020: A Tough Start With Compounded Crises – Episode 3: A Financial Crisis?

- April 2020: global liquidity crunch takes hold, central banks/multilaterals step up, exploring proposals to increase allocations of SDRs (2009, USD1tn injected in global economy, including USD250bn SDRs)

- Concerns that massive stimulus plans create enormous unproductive debt overhang slowing economic growth

- In Emerging Markets and MENA, increasing concerns about varied ability to tap markets. While GCC were able to issue nearly USD25bn of 4-6 times oversubscribed bonds, other MENA countries are struggling with increasing bond yields facing double hit of economic recession and depressed oil and gas prices.

- Few countries were able to tap into their large foreign assets, to cover current account, to inject dollar liquidity in banking systems and to offset capital flight. Saudi Arabia announced for 1Q2020 a deficit of SAR34bn (USD9bn), as oil revenue dropped 24% y-o-y to SAR 129 billion and non-oil revenue fell 17%. Saudi Arabia projected a deficit of SAR 187 billion, or 6.4% of GDP this year.

- Bright spots outside of the GCC e.g. Morocco which maintained its S&P investment grade rating and is believed to be able to contain the adverse economic and fiscal impact of the pandemic.

While GCC countries were able to issue nearly USD25bn of 4-6 times oversubscribed bonds, other MENA countries are struggling with increasing bond yields facing the one-two punch of economic recession and depressed oil and gas prices.
<table>
<thead>
<tr>
<th>Country</th>
<th>Moody’s rating</th>
<th>Sovereign CDS</th>
<th>Adj. Default Spread</th>
<th>Equity Risk Premium</th>
<th>Country Risk Premium</th>
<th>Corporate Tax Rate</th>
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<tr>
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<td>20.00%</td>
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<tr>
<td>Kuwait</td>
<td>Aa2</td>
<td>1.77%</td>
<td>0.74%</td>
<td>6.92%</td>
<td>0.91%</td>
<td>15.00%</td>
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<tr>
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<td>24.52%</td>
<td>18.51%</td>
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<td>NR</td>
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<td>5.50%</td>
<td>20.00%</td>
</tr>
<tr>
<td>Morocco</td>
<td>Ba1</td>
<td>2.81%</td>
<td>3.71%</td>
<td>10.58%</td>
<td>4.57%</td>
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<tr>
<td>Oman</td>
<td>Baa2</td>
<td>7.09%</td>
<td>4.45%</td>
<td>11.51%</td>
<td>5.50%</td>
<td>15.00%</td>
</tr>
<tr>
<td>Qatar</td>
<td>Aa3</td>
<td>1.83%</td>
<td>0.90%</td>
<td>7.12%</td>
<td>1.11%</td>
<td>10.00%</td>
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<tr>
<td>UAE (Ras Al-Khaimah)</td>
<td>Caa1</td>
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<td>11.12%</td>
<td>19.73%</td>
<td>13.72%</td>
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<tr>
<td>Saudi Arabia</td>
<td>A1</td>
<td>2.32%</td>
<td>1.04%</td>
<td>7.30%</td>
<td>1.29%</td>
<td>20.00%</td>
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<tr>
<td>UAE (Sharjah)</td>
<td>Baa2</td>
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<td>2.82%</td>
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<td>3.48%</td>
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<tr>
<td>Syria</td>
<td>NR</td>
<td>NA</td>
<td>17.03%</td>
<td>27.03%</td>
<td>21.02%</td>
<td>28.00%</td>
</tr>
<tr>
<td>Tunisia</td>
<td>B2</td>
<td>5.83%</td>
<td>8.16%</td>
<td>16.08%</td>
<td>10.07%</td>
<td>25.00%</td>
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<tr>
<td>United Arab Emirates</td>
<td>Aa2</td>
<td>NA</td>
<td>0.74%</td>
<td>6.92%</td>
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<td>55.00%</td>
</tr>
<tr>
<td>Yemen</td>
<td>NR</td>
<td>NA</td>
<td>17.03%</td>
<td>27.03%</td>
<td>21.02%</td>
<td>20.00%</td>
</tr>
</tbody>
</table>

Source: APICORP
2020: A Tough Start with Compounded Crises – Emerging Interconnected Trends

Geopolitics, Finance, Monetary

More nationalism and protectionism? Austerity will spur cooperation, particularly regional?

US-China (and others) decoupling?

Currency debasement, (more) unconventional monetary policies?

Macroeconomics, Trade

Relocation/re-shoring of global value/supply chains closer to consumers?

Emergence of other (low-cost?) manufacturing centers?

More government intervention in economy and social spheres?

Long stagflation, globalized?

Technology, Privacy, Consumer Behavior

Distributed tracing and immunity certification (voluntary and increased use of mobile technology)?

or centralized government-driven?

“E-health” challenge traditional business and lifestyle norms even further?

Digitalization and automation downward pressure on wages?
MENA Economies: Mixed Paths Towards Recovery, Some Resilience Components

- MENA affected on multiple fronts: reduced revenues, disrupted supply chains, deteriorating credit quality, esp. vulnerable sectors (most sectors except pharmaceuticals, ICT and Food & Beverages). Impact will be very mixed among countries depending on share of non-oil private sector, Hajj/tourism, trade constraints, consumer spending and unemployment policies. Remittances to medium-income and low-income countries dropped 20% globally.

- GCC earmarked +USD120 billion as economic stimulus packages, questions around transmission mechanism to stimulate real economy subdued. Credit risk premiums increased +80-100 bps even for AA-rated countries in March. Market seems to factor in W-shaped recovery for most MENA, except in countries facing severe risk of social instability.

- Resilience of oil and gas producers goes beyond “simplistic” break-even oil prices - should not be construed to project oil and gas production strategies. Among producers with best fiscal position, there will be a race to preserve long-term value proposition, by alternating market management and volume maximization, with the view of returning the maximum value to their shareholders.

- Similar dilemma faced by major energy companies: compelled to adhere to dividend policies as long as possible to preserve value proposition to their investors, while share prices reduced 20-30% year-to-date. Planned upstream spending has been cut by 20-30% across the board compared to 2020’s initial guidance. In MENA, Saudi Aramco maintaining cash dividends of at least USD75bn in 2020.
### GDP Growth Rate

<table>
<thead>
<tr>
<th>Country</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi</td>
<td>-2.3</td>
<td>2.9</td>
</tr>
<tr>
<td>UAE</td>
<td>-3.5</td>
<td>3.3</td>
</tr>
<tr>
<td>Kuwait</td>
<td>-1.1</td>
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<td>Qatar</td>
<td>-4.3</td>
<td>5.0</td>
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<tr>
<td>Oman</td>
<td>-2.8</td>
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<tr>
<td>Bahrain</td>
<td>-0.7</td>
<td>1.1</td>
</tr>
<tr>
<td>Iraq</td>
<td>-4.7</td>
<td>7.2</td>
</tr>
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<td>Iran</td>
<td>-6</td>
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<td>Jordan</td>
<td>1.7</td>
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<td>Sudan</td>
<td>-7.2</td>
<td>-3</td>
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<tr>
<td>Egypt</td>
<td>2</td>
<td>2.8</td>
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<td>Algeria</td>
<td>-5.2</td>
<td>6.2</td>
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<tr>
<td>Tunisia</td>
<td>-4.3</td>
<td>4.1</td>
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<tr>
<td>Morocco</td>
<td>-3.7</td>
<td>4.8</td>
</tr>
<tr>
<td>Sudan</td>
<td>-7.2</td>
<td>-3</td>
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</tbody>
</table>

Source: IMF April 19, 2020

---

**MENA Planned & Committed Investments 2020-24**

- **Saudi**: -2.3% to +2.9%
- **UAE**: -3.5% to +3.3%
- **Kuwait**: -1.1% to +3.4%
- **Qatar**: -4.3% to +5.0%
- **Oman**: -2.8% to +3.0%
- **Bahrain**: -0.7% to +1.1%
- **Iraq**: -4.7% to +7.2%
- **Iran**: -6% to +3.1%
- **Jordan**: 1.7% to +1.8%
- **Sudan**: -7.2% to -3%
- **Egypt**: 2% to +2.8%
- **Algeria**: -5.2% to +6.2%
- **Tunisia**: -4.3% to +4.1%
- **Morocco**: -3.7% to +4.8%
- **Sudan**: -7.2% to -3%

Source: APICORP
Projected sharp decline in Iraq's foreign reserves

Iraq: External liquidity gap (% of foreign exchange earnings)

Source: IHS Markit

© 2020 IHS Markit
Gas: Prolonged Oversupply Until 2023-2024

- After 2019 record year for new LNG project announcements, expect majority of LNG final investment decisions (FID’s) to be postponed to 2021, at best. Out of the +700 mmtpa of active proposals, 55% were US projects, Qatar was next at 15%.

- Planned projects face delays: local workforce disruption, delays in selection of contractors and partners, closure of Asian fabrication facilities, travel restrictions.


- Players prefer to postpone FIDs wherever possible, but in MENA majority will stick to gas development plans for domestic or strategic reasons. A decrease in industrial demand is testing several countries’ gas plans.

- Egypt’s LNG exports were already challenged with high feed gas prices (around USD4.5/MMbtu) compared to export netback parity. Last cargo loaded in mid-March. Saudi Arabia and UAE unconventional gas projects (USD100bn) scrutinized. Oil production cuts during 2020-2021 to push developing non-associated gas reserves. We assumed that, albeit delayed FID, Qatar will maintain plan to increase its liquefaction capacity to 126mmtpa (170 bcm/y), capitalizing on its low-cost position, for strategic reasons/market share.

- Renewal of contracts will require price/volume renegotiations, in a buyer’s market. Algeria 6 mmtpa oil-linked LNG contracts expiring during 2020-2024, Oman 6.66 mmtpa, Qatar 20 mmtpa.

- Also, more aggressive marketing and proactive business development will be key. LNG investment decisions and firmly committed demand clearly disconnected. “portfolio” model slowly changing the way LNG is financed -players using balance sheets instead of long-term purchasing contracts.

---

**LNG price outlook**

Source: IHS Markit

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Oil-linked LNG Contracts

<table>
<thead>
<tr>
<th>LNG Exporter</th>
<th>Loading Pt.</th>
<th>Buyer</th>
<th>ACQ mtpa</th>
<th>Expiry Yr</th>
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<td>Skikda - Bethioua</td>
<td>Skikda - Bethioua</td>
<td>Botas</td>
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<td>Skikda - Bethioua</td>
<td>Skikda - Bethioua</td>
<td>Endesa</td>
<td>0.3</td>
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<tr>
<td>Skikda - Bethioua</td>
<td>Skikda - Bethioua</td>
<td>Total</td>
<td>1.5</td>
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<tr>
<td>Skikda - Bethioua</td>
<td>Skikda - Bethioua</td>
<td>Total</td>
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<tr>
<td>Qalhat</td>
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<td>BP</td>
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<tr>
<td>Qalhat</td>
<td>Qalhat</td>
<td>KOGAS</td>
<td>4.06</td>
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<tr>
<td>Qalhat</td>
<td>Qalhat</td>
<td>Osaka Gas</td>
<td>0.66</td>
<td>2024</td>
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<tr>
<td>Qalhat</td>
<td>Qalhat</td>
<td>Mistubishi</td>
<td>0.8</td>
<td>2020</td>
</tr>
</tbody>
</table>

Source: APICORP

Forecast Liquefaction Final Investment Decisions by Country (Base Case)

Source: IHS Markit

© 2020 IHS Markit
Global Petrochemicals: Volatile outlook with Short-Term Downward Pressures


- Lockdowns/quarantines stemmed demand for packaging materials (PET, PE, plastic films), products used in healthcare: ethanol, glycerine, polyethylene terephthalate (PET), recycled PET, isopropanol.

- Methanol demand clearly reduced for 2Q-3Q 2020, driven by manufacturing. Demand for Ethylene’s key derivatives (PE, MEG, PVC and SM) slowly improving, crude prices impacted spot ethylene market, wait-and-see stance on existing capacity and new investments. Prices in Asia for (LLDPE) and (HDPE) at historic low levels. Propylene is in inventory correction, Polypropylene (PP) converters’ slowly improving as China comes back to capacity.

- For now, major petrochemicals investment programs as planned as countries consolidate chemicals strategy, increasing monetization and maximizing value from hydrocarbons. USD8.67Bn Duqm, USD6.73bn Sur (Oman), Kuwait’s Al-Zor with USD6.5bn, Amiral USD6.34bn (KSA) and Qatar’s QCHEM USD4.5bn complex, are main projects included.

- Outside GCC, the picture is more varied. In Iraq, Nebras project is still struggling to go ahead reflecting a combination of feedstock and feasibility challenges. Egypt pursuing new wave of petrochemicals projects led by government-owned ECHEM USD8.34bn Alamein cluster and SEZ specialty petrochemicals complex (USD3bn). Iran has +USD6bn in committed projects for 2020-24, execution depend on exit from the current health crisis.
Power: Stable Outlook, Except for Already Fragile Utilities Having to Absorb Renewables Cost Differentials

- 2020 crisis impact on utilities largely localized. Majority deployed teams for rapid intervention to ensure electricity operations continue. Share prices did not decrease as much as oil and gas- milder decrease in demand, government support to pay utilities bills. No major credit issues so far, expect in already fragile utilities. Impact on investments more acute in 2020. Spending on Renewable, T&D cut: delays in project development, restrictions, expectations of lower demand.

- MENA less affected so far, renewable auctions unchanged. Sector reform might even be accelerated post COVID19 with more distributed generation (rooftop PV), storage, net metering, network reinforcement and technology deployment (smart metering). Subsidies reforms paying off in some countries -even facing surplus capacity (e.g. Egypt, surplus 45% of baseload).

- Investments in Iraq’s power sector are most uncertain. These uncertainties and 2020 crisis-linked demand revisions are reviving question of sustainability of future renewable plans, ability to attract investments given increasingly competitive prices and margins.

- In April 2020, Emirates Water & electricity Co. (EWEC) received lowest solar tariff recorded globally at 1.35 US cents/kWh. Saudi Arabia, REPDO (lowest 1.61 US cents/kWh) received for 25-yr PPAs. With power demand below forecasts, governments face dilemma of postponing projects vs. meeting targets (Egypt, UAE). Algeria aiming high with +USD11.3bn of solar during next five years.

- Cost of storage/intermittency remediation still high, offsetting low feed-in tariffs. Tension will be particularly high in countries with already fragile utilities having to absorb the cost difference (Jordan, Morocco).
Share price composition: 2020 year-to-date returns, by sector

Note: Oil and gas index based on the iShares Global Energy ETF. Clean energy index based on the iShares Global Clean Energy ETF. Utilities index based on the iShares Global Utilities ETF. Data as of 20 March 2020.

Selected renewable energy generation technologies are cost-competitive with conventional generation technologies under certain circumstances

Source: Lazard 2019

Reduction in investment outlook (mostly in Planned) largely attributed to 2020 triple crisis. Global upstream spending slashed 30% in 2020 (decline in oil and gas prices, unprecedented decline in demand). Impact on MENA upstream will be lower than globally, offset by unconventional gas, non-associated gas developments for domestic consumption and strategic market share positioning for exports.

2020 is expected be more challenging than previous downturns. Impact already deeper and longer lasting. In 2015-2016, investments were cut 25% p.a.. The long-term nature of the triple crisis and the profound restructuring in oil and gas will hit energy investments longer, sowing the seeds of supply crunches and price volatility.
2020-24 Energy Investment Outlook - Selected Highlights

Source: APICORP

Source: APICORP
MENA ANNUAL ENERGY INVESTMENT OUTLOOK 2020-2024:
DATA APPENDIX
Committed vs. Planned Investments

MENA 2020-24 Committed Projects by Industry

**Total Committed Investment (USD BN):** 343

- **Oil:** 41%
- **Power:** 27%
- **Gas:** 26%
- **Chemical:** 6%

Source: APICORP

Committed MENA Energy Investment (USD Bn)

Total Committed Investment (USD BN): 343

- **Power:**
  - EPC
  - FEED
  - Study

- **Chemicals:**
- **Gas:**
- **Oil:**

Source: APICORP

MENA 2020-24 Planned Projects by Sector

**Total Planned Investment (USD BN):** 466

- **Oil:** 22%
- **Power:** 32%
- **Gas:** 27%
- **Chemical:** 20%

Source: APICORP

Planned MENA Energy Investment (USD Bn)

Total Planned Investment (USD BN): 466

- **Power:**
  - EPC
  - FEED
  - Study

- **Chemicals:**
- **Gas:**
- **Oil:**

Source: APICORP
Total Energy Investments by Country (USD Bn)

MENA 2020-24 Energy Outlook - Total Energy Investments by Country (USD Bn)

Source: APICORP
Committed Investments Down 6 % vs Previous Outlook, GCC Up by 2.3 %
Private Sector: 19% of Total Investments
## Top 20 MENA Projects by Aggregate Value (Committed & Planned)

<table>
<thead>
<tr>
<th>Project</th>
<th>Country</th>
<th>Sector</th>
<th>2020-24 value in USD Bn</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZADCO - Upper Zakum Full Field Development</td>
<td>UAE</td>
<td>Oil</td>
<td>15.48</td>
</tr>
<tr>
<td>BGC - South Gas Utilisation Project</td>
<td>Iraq</td>
<td>Gas</td>
<td>15.35</td>
</tr>
<tr>
<td>Ministry of Electricity - Gas-Fired Power Plants Program 11 GW in Iraq</td>
<td>Iraq</td>
<td>Power</td>
<td>12.8</td>
</tr>
<tr>
<td>BP - Block 61 Development</td>
<td>Oman</td>
<td>Gas</td>
<td>12.5</td>
</tr>
<tr>
<td>Eni/Oxy / Kogas / MOC/SOC - Zubair Field Development</td>
<td>Iraq</td>
<td>Oil</td>
<td>12.4</td>
</tr>
<tr>
<td>SRC - Basra Refinery Upgrade</td>
<td>Iraq</td>
<td>Oil</td>
<td>12.4</td>
</tr>
<tr>
<td>ENEC/KEPCO - Barakah Nuclear Power Plant</td>
<td>UAE</td>
<td>Power</td>
<td>10.5</td>
</tr>
<tr>
<td>Jafura Unconventional Gas</td>
<td>KSA</td>
<td>Gas</td>
<td>9.85</td>
</tr>
<tr>
<td>Qatargas - LNG Processing Trains (EPC-1)</td>
<td>Qatar</td>
<td>Gas</td>
<td>9.37</td>
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<tr>
<td>Duqm Refinery - Duqm Petrochemical Complex</td>
<td>Oman</td>
<td>Chemical</td>
<td>8.67</td>
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<tr>
<td>Egypt Ministry of Petroleum - Salamat Field</td>
<td>Egypt</td>
<td>Gas</td>
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<tr>
<td>ECHEM - Alamein Petrochemical Complex</td>
<td>Egypt</td>
<td>Chemical</td>
<td>8.34</td>
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<td>REPDO - Renewable Energy Program: Round III</td>
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<td>ZADCO - UZ1000 Expansion: Development of Surface Facilities</td>
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<td>SIS - Sur Refinery And Petrochemical Complex</td>
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<tr>
<td>MoO - Iraq Strategic Crude Oil Export Pipeline: Haditha - Aqaba Pipeline</td>
<td>Iraq</td>
<td>Oil</td>
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<tr>
<td>MoP - Oil Refining and Petrochemical Complex - Suez Canal Economic Zone</td>
<td>Egypt</td>
<td>Chemical</td>
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<tr>
<td>AtomStroyExport - El Dabaa Nuclear Power Plant 4800 MW</td>
<td>Egypt</td>
<td>Power</td>
<td>6.4</td>
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<tr>
<td>QP - Bul Hanine Field Redevelopment Project: Phase I</td>
<td>Qatar</td>
<td>Oil</td>
<td>6.35</td>
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<tr>
<td>SATORP Amiral petrochemical complex</td>
<td>KSA</td>
<td>Chemical</td>
<td>6.34</td>
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</tbody>
</table>

Source: APICORP
Top 20 MENA Projects Under Execution by Aggregate Value (Committed)

<table>
<thead>
<tr>
<th>Project</th>
<th>Country</th>
<th>Developer</th>
<th>2020-24 value in USD Bn</th>
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</thead>
<tbody>
<tr>
<td>ZADCO - Upper Zakum Full Field Development</td>
<td>UAE</td>
<td>Oil</td>
<td>15.5</td>
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<tr>
<td>BGC - South Gas Utilisation Project</td>
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<td>Gas</td>
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<td>SRC - Basra Refinery Upgrade</td>
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<tr>
<td>ENEC/KEPCO - Barakah Nuclear Power Plant</td>
<td>UAE</td>
<td>Oil</td>
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<tr>
<td>MoP - Oil Refining and Petrochemical Complex in Suez Canal Economic Zone</td>
<td>Egypt</td>
<td>Power</td>
<td>6.5</td>
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<tr>
<td>QP - Bul Hanine Field Redevelopment Project: Phase 1</td>
<td>Qatar</td>
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<td>NREA - Renewable Energy Program: Round II (FIT Model)</td>
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<td>NIGC - IGAT Gas Trunkline</td>
<td>Iran</td>
<td>Chemical</td>
<td>6.3</td>
</tr>
<tr>
<td>AEOI - Bushehr Nuclear Plant 2 – Bushehr</td>
<td>Iran</td>
<td>Gas</td>
<td>4.1</td>
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<td>Bapco - Modernization Programme: Refinery Units</td>
<td>Bahrain</td>
<td>Chemical</td>
<td>3.8</td>
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<td>KAPP - Al Zour North IWPP</td>
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<td>EEHC - 6,000 MW Hamrawein Coal Fuel Power Plant</td>
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<td>Jafura Unconventional Gas</td>
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<td>KPRC - South Pars Gas Field Development: Phase 12: Production Facility: Ph. 2</td>
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</tbody>
</table>

Source: APICORP