MENA Power Investment Outlook 2020-2024

BETWEEN FIGHTING A PANDEMIC AND MANAGING RENEWABLES

1st IAEE Online Conference: ENERGY, COVID, AND CLIMATE CHANGE

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Overall reduction in electricity demand amid resilience of renewables

Impact on power demand

• Reduction in global electricity demand in 2020, 5% vs. 2019

• Electricity demand in 2020 dropped by:
  • 4.8% in US
  • 3% in China
  • 5.7% in India
  • 8.2% in EU

![Variation in Primary Energy Demand by Fuel in 2020 relative to 2019](chart.png)
The increase in residential power demand mitigated the overall drop in total power demand in MENA

Impact on power demand

- Increase in the share of the residential sector’s electricity consumption
- MENA region:
  - Residential sector (41%)
  - Industrial sector (21%)
  - Commercial sector (20%)
  - Agriculture and transport, network losses (18%)

![Increase in residential power demand at expense of commercial and industrial power demand during Covid (DC-2020) vs. pre-Covid (PC-2020) for selected countries](chart.png)
Robust solar PV and wind additions in MENA over the next 5 years

Shift in the power supply mix

- Global renewables-based generation increased
  - 30% in 2020, up 3% from 2019
- MENA region will add
  - 1.5 GW in 2020
  - 3 GW in 2021
  - 20 GW over the next five years
2020 experienced a drop in natural gas in favor of mostly renewables in the power generation mix in MENA

Shift in the power supply mix

- Fossil fuels, coal and nuclear will remain indispensable in the power supply mix
- Natural gas makes up 90% of the power generation mix in Egypt, UAE and Algeria
- The share of natural gas in the power generation mix in 2020 fell by:
  - 2% in Egypt
  - 9% in the UAE
  - 5% in Jordan
The power sector experienced the largest drop in planned investments compared to other sectors

Impact on power projects investments

• Committed investments held steady in comparison with the previous outlook, while planned investments decreased by USD 114 billion, a 33% drop
• Several planned projects moving to committed status in 2020
• Other factors include increased surplus capacities in Egypt and Saudi Arabia, as well as stalled projects in Iran, Iraq, Tunisia and Lebanon as a direct impact of the pandemic
Planned projects represent two-thirds of the total value of the 2020-2024 MENA project pipeline

Impact on power projects investments

• Committed Investments are projects in execution phase (post-FID) while planned investments are in pre-execution phase (pre-FID)
• Committed investments to total investments are a measure of the rate of execution of projects in a country or region
• UAE, Egypt, Iran, Iraq and KSA rank highest in committed projects by value
• KSA, Egypt, UAE, Algeria and Kuwait rank highest in planned projects by value

MENA 2020-24 Committed vs Planned Investments (USD bn)

- Committed: 86 (37%)
- Planned: 143 (63%)
Investments in T&D are lagging in MENA as compared to the global average

Impact on power projects investments

- High RE targets will ramp up investments in T&D - required to connect distributed grids, implement smart metering and storage solutions
- Transmission is mostly footed by the public sector
- Distribution is slowly opening for private sector participation (Morocco, Lebanon, Oman, UAE, KSA, and recently Egypt)
Around 43% of power generation investments are renewables projects

Impact on power projects investments

- Transmission & Distribution: 12%
- Coal Power Plant: 3%
- Hydro Power Plant: 4%
- Nuclear Power Plant: 15%
- Oil/Gas Power Plant: 32%
- Solar Power Farm: 27%
- Waste to Energy Power Plant: 3%
- Wind Power Farm: 4%

Generation 88%
Low risk projects were backed by strong government payment guarantees

MENA power market highlights

- Egypt accelerated progress on the USD 29.5 billion El Dabaa Nuclear Power Plant (4.8 GW) for which groundworks and site preparation commenced in October 2020

- Saudi Arabia prioritized the financial restructuring of SEC
  - Reclassification of USD 44.77 bn worth of liabilities
  - Cancellation of government fees
  - Adoption of RAB model
Low-cost renewable and gas accelerate the penetration of hydrogen and other low-carbon or net-zero products

MENA power market highlights

- Relatively low natural gas prices advantages blue hydrogen - key role in medium term – CCUs cost is a key driver

- As renewables costs decline, green hydrogen competitiveness is improving – electrolysers cost is a key driver

- Market updates in Saudi Arabia, UAE, Oman, Kuwait, Egypt, Morocco

Key takeaways from APICORP’s MENA Power Investment Outlook 2020-2024

The power sector continues to play a vital role in driving economic recovery post-pandemic

Policy efficiency and digitalization are key factors shaping future power markets and needed investments

MENA has potential for more interconnectivity and to emerge as an exporting region for net-zero and low-carbon products (hydrogen, ammonia, methanol etc.)
About APICORP

• The Arab Petroleum Investments Corporation (APICORP) is a multilateral development bank rated "Aa2" by Moody's and "AA" by Fitch, established on November 23, 1975. Its incorporation is in accordance with a multilateral agreement between the governments of the ten member states of the Organization of Arab Petroleum Exporting Countries (OAPEC).

• APICORP is headquartered in Dammam, Kingdom of Saudi Arabia, and has a branch in the Kingdom of Bahrain, regulated by the Central Bank of Bahrain.

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