

# VIS

Credit Rating Company Limited

---

**OIL AND GAS  
(EXPLORATION & PRODUCTION)**

## Table of Contents

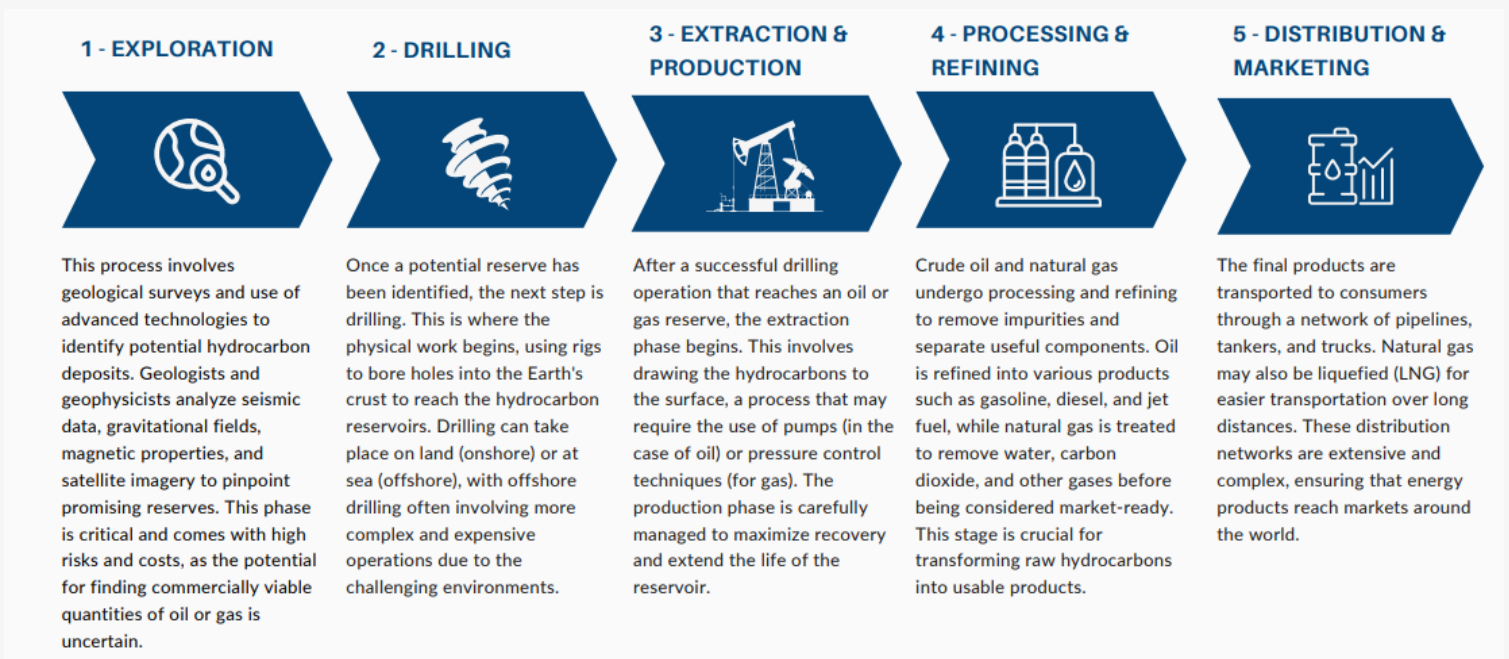
INTRODUCTION .....	3
ECONOMIC OVERVIEW .....	3
GLOBAL.....	3
PAKISTAN .....	4
GLOBAL.....	4
PAKISTAN .....	5
RECENT DEVELOPMENTS AND THEIR IMPACT .....	7
SECTOR DRIVERS .....	8
PAKISTAN .....	8
SECTOR RISKS .....	9
INDUSTRY BUSINESS RISK: .....	9
SECTOR OUTLOOK.....	9
OVERALL ASSESSMENT/OUTLOOK: STABLE.....	9
VIS RATING UNIVERSE .....	10
REFERENCES.....	10



## INTRODUCTION

The oil and gas sector is a cornerstone of the global energy industry, playing a vital role in powering economies, fueling transportation, and enabling a myriad of industrial processes. It encompasses exploration, extraction, refining, transportation, and marketing of oil and gas, the resources that remain central to the energy supply chain, despite growing emphasis on renewable energy sources. Major oil-producing regions include the Middle East, North America, Russia, and parts of Africa and South America, while the demand is highest in developed economies and rapidly growing in emerging markets. In recent years, the push for sustainability and the transition towards greener energy sources have posed challenges to the traditional oil and gas sectors, prompting them to innovate and adapt to a changing energy landscape.

The key activities pertaining to the oil and gas production have been visualized below:



This sector is vast and complex and it is broken down into three segments: Upstream, Midstream and Downstream. Upstream or Exploration & Production (E&P) companies, find reservoirs and drill oil and gas wells. Midstream companies deal with the transportation of oil from wells to refineries where it is filtered and sold to end consumers by downstream companies. This report addresses the E&P side of the sector.

## ECONOMIC OVERVIEW

### GLOBAL

In 2023, the global economic landscape was shaped by enduring inflationary pressures, with many countries experiencing high inflation rates, leading central banks to pursue aggressive monetary tightening. The global growth forecast, according to the International Monetary Fund (IMF), was adjusted to around 3.1%, reflecting a subdued post-pandemic

recovery influenced by factors such as supply chain issues and the ongoing Russia-Ukraine conflict, which exacerbated volatility in energy and food markets. China's economy, grappling with its challenges, received fiscal support, targeting growth above 5%. Emerging markets dealt with the impact of a strong US dollar, which contributed to capital outflows and currency pressures, with some currencies depreciating significantly against the dollar. The combined effect of these factors presented a significant challenge for global economic stability, with the risks of a slowdown and recession looming on the horizon.

## PAKISTAN

In 2023, Pakistan's economic landscape was defined by its struggle with high inflation and efforts to narrow its trade deficit, achieving a significant reduction of 34.29% in the first half of the fiscal year, compared to the same period in the previous year. This was partly buoyed by a noteworthy 66.4% increase in exports to China during July-December 2023, showcasing a strengthening of trade ties between the two countries. This upward trend in exports, particularly to China, hints at potential continued economic engagement and benefits for Pakistan. The Asian Development Bank's forecasts encapsulate these dynamics, predicting a cautious GDP growth of 0.3% for 2023 and a slight improvement to 1.9% in 2024. The inflation rates are projected to remain high at 29.2% in 2023, with a slight improvement to 25.0% in 2024, indicating persistent cost-of-living pressures.

The future outlook of Pakistan's economy in 2024 is cautiously optimistic yet hinges on several external and internal factors. Key among these are global energy prices influenced by geopolitical tensions, such as the ongoing Ukraine-Russia conflict and the situation in the Middle East, and climate change effects on agriculture. Additionally, Pakistan's economic trajectory is closely tied to its relationship with the International Monetary Fund (IMF), with recent engagements stabilizing some economic indicators. The country's ability to sustain and leverage these improvements depends on maintaining disciplined economic policies and enhancing its investment climate, as indicated by the establishment of the Special Investment Facilitation Council. However, challenges remain, including the need for a transition to a greener economy amidst global calls for climate justice and equitable responsibility sharing. These dynamics present a complex but navigable path for Pakistan's economy, contingent on strategic policy decisions and international cooperation.

## OIL AND GAS (E&P) INDUSTRY

### GLOBAL

The global oil and gas market was valued at USD 6.58T in 2022 and is expected to grow to USD 8.57T by 2030, with a Computed annualized growth rate (CAGR) of 3.80% from 2023 to 2030. The top five oil-producing nations in 2022 were United States (US), Saudi Arabia, Russia, Canada, and China. The United States topped the list with a production of 18,875,000 barrels per day (bpd) and Saudi Arabia came in second with an output of 10,835,000bpd with 17% of the total proven petroleum reserves on a global scale. Furthermore, US also remained a top producer of natural gas during FY22 with production aggregating to 1,030b cubic meters, followed by Russia~699b cubic meters. Iran is third ~244b cubic meters, China produced 219b cubic meters, whereas Canada produced 205b cubic meters of natural gas. On the consumer side, U.S. topped the list of oil consumers in 2022, followed by China, India, Russia, and Japan.

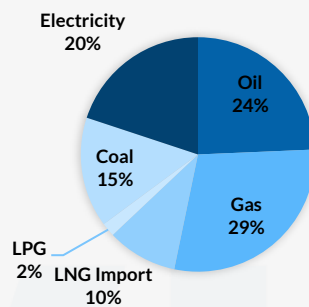
Globally, the performance of this sector has been marked by recovery and adaptation following the initial shocks of the COVID-19 pandemic. The industry has rebounded from the historic lows of 2020, with rising demand and prices as the global economy began to recover. However, this recovery has been tempered by significant challenges, including supply

chain disruptions, labor shortages, and the accelerating transition towards renewable energy sources, which has led to increased investor scrutiny on the sustainability practices of these companies. In response to climate concerns and changing energy dynamics, there's been a strategic pivot within the sector, with some companies increasing their investments in renewable energy and diversifying their portfolios to include more sustainable energy assets. Additionally, technological advancements in exploration and production, such as improved seismic imaging and digitalization, have continued to drive efficiency and reduce costs. However, geopolitical tensions, particularly the Russia-Ukraine conflict, have introduced new uncertainties and volatility, complicating the market and affecting supply dynamics.

## PAKISTAN

The energy landscape in Pakistan for FY23 exhibits a mix of trends and developments that are significantly impacting the nation's energy dynamics. Indigenous energy production, contributing 61% to the energy mix, is complemented by substantial energy imports, accounting for the remaining 39%. This synergy between domestic and imported energy sources remains a crucial determinant of Pakistan's energy supply structure. Moreover, total primary commercial energy supplies during FY23 were recorded 12.1% lower at 83m (FY22: 94 mtoe) tonnes of oil equivalent (mtoe); the same is attributable to a decrease in the supplies of oil, coal and gas. The sources that comprise the aforesaid supply has been presented below:

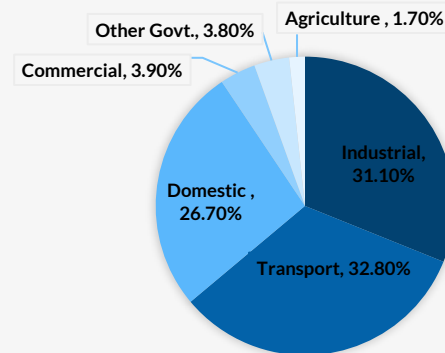
### SHARE OF ENERGY SOURCES DURING FY23



(Derived from Pakistan Energy Yearbook 2022-2023)

On the other hand, final energy consumption was reduced by 18% during FY23; the same was recorded at 46 mtoe in line with a 27% and 21% decline in the consumption by industrial and transport sector respectively. Additionally, the other government sector reduced energy consumption by 19.5%, agriculture by 7.1%, commercial by 4.1%, and domestic sector by 1.3%. These reductions also indicate a potential shift toward more energy-efficient practices and technologies across these sectors. Lastly, noteworthy augmentation of prices of energy sources such as oil and gas in line with currency devaluation also led to lower consumption during FY23. The breakdown of consumption of energy by various sources has been presented below:

## CONSUMPTION OF ENERGY DURING FY23

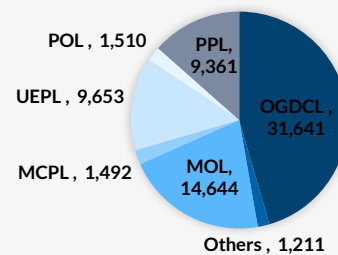


(Derived from Pakistan Energy Yearbook 2022-2023)

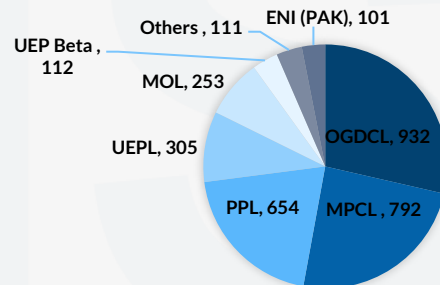
## EXTRACTION & PRODUCTION

By end-June'23, the landscape of oil and gas exploration in Pakistan is characterized by significant activity and strategic development efforts. A total of **1,194 exploratory wells** have been drilled as of FY23, demonstrating a concerted effort to tap into the country's hydrocarbon potential, which is spread across a vast sedimentary area of 827,268 square kilometers. In addition to exploration, the development of 1,571 wells signifies a robust initiative to enhance production capabilities. The exploratory drilling density stands at one well per 693 square kilometers, reflecting a targeted approach to exploration. The fruitful outcome of these endeavors is evident in the discovery of 442 new sources of hydrocarbons, comprising 107 oil wells and an impressive 335 wells yielding gas and condensates. This indicates a proactive exploration strategy, aligning with the government's broader energy security goals. Moreover, the overall success rate of exploration and development activities is approximately 1 in 2.70, which suggests a favorable geological prospectivity and effective resource extraction method.

## CRUDE OIL PRODUCTION (IN MILLIONS TONS)



## NATURAL GAS (IN MILLION CUBIC FEET PER DAY)



Pakistan's balance recoverable oil and gas reserves stood at 193m barrels and 18.3t cubic feet respectively, while the crude oil production for the year FY23 was recorded at 25m barrels with 69,513 barrels per day whereas the daily production of natural gas was recorded at 3,259m cubic feet per day respectively. Compared to the previous year, the average daily production of local crude oil saw a decline of 5.34%, falling from 73,436 barrels per day to 69,513 barrels

per day during FY23. Furthermore, the production of natural gas also decreased by 3.86%, dropping from 3,390 MMCFD to 3,259 MMCFD. This reduction in both oil and gas production can be attributed to limited upstream activities within the country, marked by the drilling of only 15 exploratory and 32 development/appraisal wells during this period. Despite these constraints, there were 11 discoveries made, predominantly comprising gas and gas condensate. OGDCL continues to remain a dominant producer of both. Nevertheless, domestic oil production, although substantial, does not suffice to cover the consumption needs, which stood at 16.7m.t, leading to considerable imports. In FY23 alone, imports comprised 8.6m.t of crude and 8.2m.t of petroleum, oil, and lubricant (POL) products, culminating in a hefty import bill of USD 13.6b, underlining the heavy reliance on foreign oil.

## BUSINESS RISK

In Pakistan, the oil and gas exploration and production (E&P) sector exhibits low cyclical risk due to specific market dynamics, regulatory stability, and the strategic importance of oil and gas in the country's energy mix. While reliance on imported oil introduces complexity due to currency fluctuations and geopolitical factors, government policies promoting domestic production and incentivizing investment create a relatively stable operational environment. Additionally, Pakistan's growing energy demand, fueled by economic development and population growth, maintains a consistent baseline demand for domestic production, thus mitigating global oil price volatility. Technological advancements and potential discoveries further contribute to moderating cyclical risks, resulting in a medium level of cyclical risk overall in Pakistan's E&P sector. Additionally, this sector has very high barriers to entry; the same is attributable to high resource ownership, high startup costs, patents and copyrights in association with proprietary technology, government and environmental regulations, and high fixed operating costs. Currently, only a handful of major E&P companies are operational in Pakistan formulating an oligopolistic structure that is marked by high competition.

Operational costs in the E&P sector are on the higher end emanating from substantial upfront investment required in exploration, drilling, and infrastructure development coupled with challenging geographic and geological conditions, including remote and sometimes politically unstable regions. Furthermore, the need for advanced technology to exploit reserves efficiently and adhere to environmental and safety standards further escalates expenses. This combination of factors necessitates significant capital outlay, making the E&P sector highly capital-intensive. On the flip side, technology risk E&P exploration companies is generally low due to well-established and proven exploration and production techniques. These companies have access to advanced seismic imaging technologies, drilling technologies, and reservoir management techniques, which have been refined over decades of industry experience. Additionally, ongoing research and development efforts continually enhance existing technologies, further reducing the likelihood of technological setbacks.

Lastly, energy sensitivity is high for oil and gas (E&P) companies primarily because their profitability and operations are directly tied to energy prices. Fluctuations in oil and gas prices significantly impact the revenue and profitability of these companies, as their earnings are largely dependent on the market value of the commodities they produce. Additionally, changes in energy prices can influence investment decisions, production levels, and exploration activities within the sector, making E&P companies highly sensitive to shifts in the energy market.

## RECENT DEVELOPMENTS AND THEIR IMPACT

**Offshore Exploration Efforts:** Despite concerted efforts by Pakistan and engagement with numerous international companies, the offshore exploration activities have yet to yield significant discoveries of oil and gas reserves. Eighteen wells have been drilled in the offshore areas of Pakistan without discovering any commercially viable oil and gas reserves.



This exploration has seen participation from global industry players such as ENI Pakistan Limited, BP Pakistan Exploration & Production, and ExxonMobil Exploration & Production Pakistan BV, among others. The endeavor into deep-sea exploration signifies Pakistan's commitment to expanding its energy resource base, though the initial exploratory efforts have not been successful.

**Initiation of Bidding Process for Exploration Blocks:** The country has taken proactive steps to invigorate its oil and gas E&P sector by initiating a bidding process for exploration blocks. The Directorate General of Petroleum Concessions (DGPC) invited bids for 10 exploration blocks, with positive responses for 6 onshore blocks. This process indicates a projected initial investment of \$23.2 million over the next three years for the exploration of these blocks. The companies that win these bids are also committed to investing in social development initiatives within the communities surrounding the exploration areas, with a pledged spend of \$540,000 annually on social activities. This move is anticipated to boost Pakistan's energy security and economic growth by potentially uncovering new oil and gas reserves.

### International E&P activities

Recently, Pakistani E&P companies have started to participate in the regional exploration markets wherein countries like Iran, UAE and Yemen are the prominent ones where the exploratory work is ongoing. Prominent among this is the joint venture effort of some oil exploratory companies for E&P operations in Abu Dhabi block 5.

### Impact:

The developments in offshore exploration, despite the lack of immediate success, underline the persistent challenge of exploring new energy resources in deep-sea environments. However, the commitment to such projects demonstrates Pakistan's long-term strategy to enhance its energy independence. On the other hand, the initiation of the bidding process for new exploration blocks signifies a proactive approach to attract investment into the sector, potentially leading to significant discoveries in the future. This effort not only aims at strengthening Pakistan's energy resources but also indicates a commitment to responsible and sustainable development within the E&P sector. Together, these developments showcase a blend of ongoing challenges and forward-looking strategies in Pakistan's oil and gas sector, marking a pivotal effort towards securing the country's energy future.

## SECTOR DRIVERS

### PAKISTAN

- Domestic Energy Demand:** Pakistan's increasing energy needs, driven by population expansion, push exploration and production companies to augment their output to meet local demand. Meeting this demand can improve energy security for Pakistan, reduce the need for energy imports, and stimulate the local economy.
- Geological Potential:** Pakistan has significant unexplored basins with potential hydrocarbon reserves. Exploratory success in these basins can act as a driver for the industry. Discovering new reserves would be crucial for increasing domestic production, attracting foreign investment, and potentially reducing the energy trade deficit.
- Government Incentives:** Incentives such as tax breaks, favorable licensing terms, and investment in infrastructure can drive the exploration and production activities in the oil and gas sector. Such incentives can encourage both local and international companies to invest in Pakistan's oil and gas resources, leading to increased exploration activity and production levels.



4. **Security and Political Stability:** The security situation and political stability in regions where oil and gas reserves are located are critical for uninterrupted operations. Improved security and stability can ensure the smooth functioning of exploration and production activities, whereas instability can deter investment and lead to project delays or shutdowns.
5. **Global Market Dynamics:** Even though global pricing is more relevant to downstream activities, it can also impact exploration and production indirectly by influencing investment decisions based on expected future profitability. Favorable global oil and gas prices can increase the value of domestic production and incentivize further exploration and development activities within Pakistan.

## SECTOR RISKS

1. **Regulatory and Policy Challenges:** The frequently changing policies and a complex regulatory framework can create uncertainties for oil and gas companies. This unpredictability can hinder long-term strategic planning and discourage new entrants, reducing the overall competitiveness and growth potential of the sector.
2. **Security Concerns:** Companies operating in certain regions are exposed to security risks; the same results in operational disruptions, increased costs for security measures, and lowers overall production output.
3. **Infrastructure Constraints:** Inadequate infrastructure such as underdeveloped transportation, storage facilities, and limited refining capacity restrict the potential for expansion and efficient operation, creates a risk of loss of product during transportation and constrains the volume that can be processed and brought to market.
4. **Financial Limitations:** The high-risk profile of the E&P sector exposes it to limited access to capital for large-scale exploration in the absence of tailored financial products for the sector.
5. **Technical and Skill Gaps:** The availability of advanced technological tools and skilled professionals in Pakistan's oil and gas sector lags behind the potential demand.
6. **Environmental Regulations:** The increasing focus on environmental protection and climate change has led to more stringent regulations. Compliance with these regulations can increase costs for companies, requiring them to invest in cleaner technologies and practices, which can be financially taxing especially for smaller enterprises.

## INDUSTRY BUSINESS RISK:

The business risk of the E&P sub sector is governed by the high risk entailed first in identifying potential reserve areas and then in finding commercially viable production volumes from them. Given the advanced exploratory techniques available the success ratio still varies from field to field and similarly the determination of commercially proven reserves is a complex process. The Industry Business risk for the E&P sector is thus placed at “**High to medium high**”.

## SECTOR OUTLOOK

### OVERALL ASSESSMENT/OUTLOOK: STABLE

In line with the aforesaid factors; this sector has been assigned a “Stable Outlook”. However, the future is to be influenced by various factors, including continued efforts to explore untapped reserves, advancements in technology for efficient

resource extraction, and government policies aimed at promoting investment and enhancing energy security. While challenges such as geopolitical tensions, environmental concerns, and fluctuating global oil prices may pose obstacles, opportunities exist for Pakistan to capitalize on its domestic resources, particularly in offshore and unconventional fields. Strategic partnerships with international oil companies, coupled with infrastructure development initiatives, could further propel the sector's growth, fostering economic development and contributing to the country's energy self-sufficiency goals.

## VIS RATING UNIVERSE

VIS rates one entity from oil and gas (E&P) sector; the same is rated at AAA (Triple-A) band with short-term ratings of A-1+ (A-One Plus). It is also a state-owned entity.

Summary of VIS Oil and Gas (E&P) Ratings Universe			
Company	Long-term Rating	Short-term Rating	Outlook
Oil & Gas Development Company Limited	AAA	A-1+	Stable

Rating scale and Definitions may be accessed at (<https://docs.vis.com.pk/docs/VISRatingScales.pdf>)

## REFERENCES

- Pakistan Energy Yearbook FY23
- International Monetary Funds
- Statista
- Global economic prospects (The Worldbank)
- S&P Global
- Asian Development Bank
- Express Tribune
- Dawn
- Pakistan Today
- ProPakistani

[/www.worldbank.org/en/publication/global-economic-prospects](http://www.worldbank.org/en/publication/global-economic-prospects)

## RESEARCH & PUBLICATIONS

**Arooba Ashfaq** – Assistant Manager | Ratings

[arooba.ashfaq@vis.com.pk](mailto:arooba.ashfaq@vis.com.pk)



Jahangir Kothari Parade (Lady Lloyd Pier) Inspired by Her Excellency, The Honorable Lady Lloyd, this promenade pier and pavillion was constructed at a cost of 3 Lakhs and donated to the public of Karachi by Jahangir Kothari to whose genrosity and public spirit the gift is due. Foundation stone laid on January 5, 1920. Opened by Her Excellency, The Honorable Lady Lloyd on March 21, 1921.

**Dome:** A roof or vault, usually hemispherical in form. Until the 19th century, domes were constructed of masonry, of wood, or of combinations of the two, frequently reinforced with iron chains around the base to counteract the outward thrust of the structure.

**Origins:** The dome seems to have developed as roofing for circular mud-brick huts in ancient Mesopotamia about 6000 years ago. In the 14th century B.C. the Mycenaean Greeks built tombs roofed with steep corbeled domes in the shape of pointed beehives (tholos tombs). Otherwise, the dome was not important in ancient Greek architecture. The Romans developed the masonry dome in its purest form, culminating in a temple built by the emperor Hadrian. Set on a massive circular drum the coffered dome forms a perfect hemisphere on the interior, with a large oculus (eye) in its center to admit light.

**VIS Credit Rating Company Limited** is committed to the protection of investors and offers a blend of local expertise and international experience to serve the domestic financial markets. With its international reach, VIS is positioned to aim for an international mark. In this regard, the global experience of our international affiliates and partners have been invaluable towards adding depth to our ongoing research endeavors, enriching us in ways, that enable us to deliver our responsibilities to the satisfaction of all investors. The edifice of the Jahangir Kothari Parade has stood proudly through the years and is a symbol of our heritage. Its 'Dome' as the most stable of building structures, exemplifies architectural perfection. Committed to excellence, VIS continues its endeavour to remain an emblem of trust.

## INTERNATIONAL

### Affiliates

Islamic International Rating Agency – Bahrain – iira.com

Credit Rating Information & Services Ltd. – Bangladesh – crislbd.com

### Collaborations

Japan Credit Rating Agency, Ltd. - Japan

China Chengxin International Credit Rating Company Limited - China

## CONTACT

### Karachi VIS House

128/C, 25th Lane off Khayaban-e-Ittehad,

Phase VII, DHA, Karachi

Tel: (92-21) 35311861-64

### Lahore VIS House

431, Block-Q, Commercial Area, Phase-II,

D.H.A. Lahore - Cantt.

Tel: (92-42) 35723411-13

## DISCLAIMER

Information herein was obtained from sources believed to be accurate and reliable; however, VIS does not guarantee the accuracy, adequacy or completeness of any information and is not responsible for any errors or omissions or for the results obtained from the use of such information. Rating is an opinion on credit quality only and is not a recommendation to buy or sell any securities. Copyright VIS Credit Rating Company Limited. All rights reserved. Contents may be used by news media with credit to VIS.