

COVID-19 OUTBREAK: A BLACK SWAN EVENT FOR THE PETROLEUM INDUSTRY

BY **AMINA HUSSIEN, REHAM GAMAL & TASNEEM MADI**

****The data & expectations were last updated on April 27, 2020 and they may differ due to the dynamics of the outbreak.**

The international petroleum industry has been facing major threats since the global spread of the COVID-19 outbreak in January. Brent crude price has been falling, reversing the increase in prices achieved in the last four months of 2019. On March 18, Brent crude oil and Organization of Petroleum Exporting Countries (OPEC) Basket prices hit their lowest value since the first Gulf war in 1991, as they remarkably declined to about $20 per barrel, according to Bloomberg. Meanwhile, on April 20, West Texas Intermediate (WTI) oil prices witnessed an unprecedented decline of about 300%, to reach below $0 per barrel.

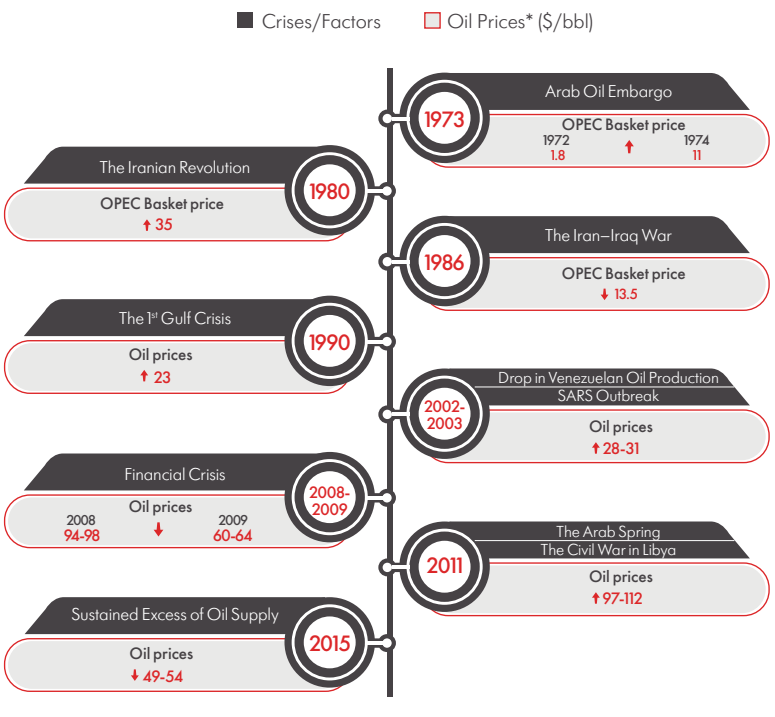
With the growing sense of uncertainty towards the future of the petroleum sector, this report intends to reflect the whole picture of COVID-19's impacts on the petroleum sector internationally and in Egypt.

Some parts of the report are based on a survey conducted by Egypt Oil & Gas' Research & Analysis team to test the impact of the virus on different aspects of the sector. The survey targeted different categories in the sector, as C-level executives represented 41.5% of the respondents, while 30.2% were engineers and geologists. Research managers in oil and gas departments contributed as well.

GLOBAL CRISES AND OIL PRICES FLUCTUATIONS

Since the 1970s, oil prices have witnessed several fluctuations arising from global crises. Starting from the Arab oil embargo crisis in 1973, one of the earliest oil crises that caused a surge in oil prices until facing the Covid-19 outbreak in 2020 which outstandingly brought oil prices to low values.

Global Crises and Oil Prices Fluctuations Since 1970s



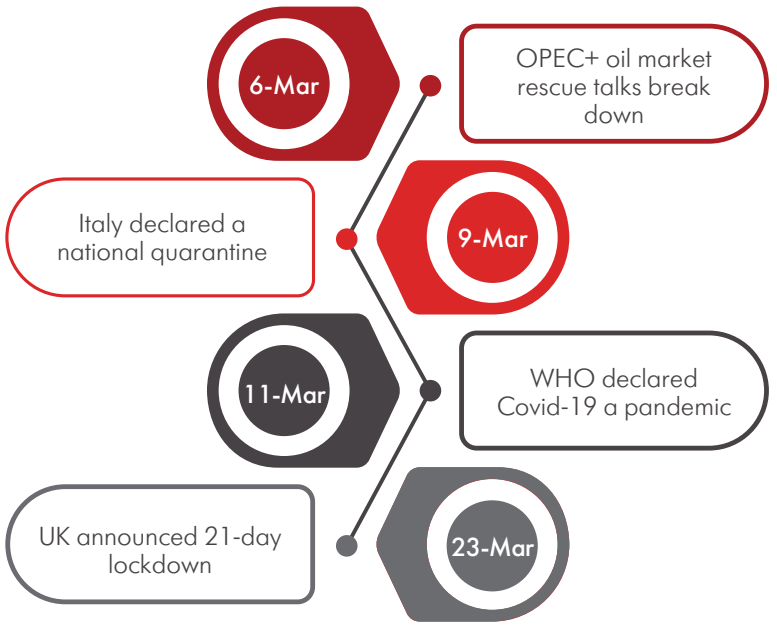
***Oil Prices for Brent Crude Oil, WTI Crude Oil and OPEC Basket Price**
Sources: EIA, OPEC Secretariat, and Bloomberg

COVID-19 IMPACTS ON THE INTERNATIONAL OIL & GAS MARKET

i. Effects on Oil Prices

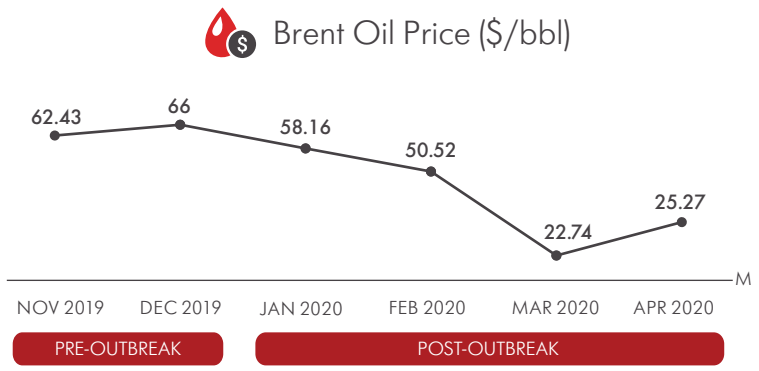
Oil prices have been increasing prior to the outbreak, as the demand for oil was increasing and the market was at its boom. However, some actions including Coronavirus spread, the Saudi-Russian oil war, drove the global oil demand to plummet, and the oil prices witnessed an unprecedented decrease of about 55% in March compared to February, according to Bloomberg and OPEC Secretariat.

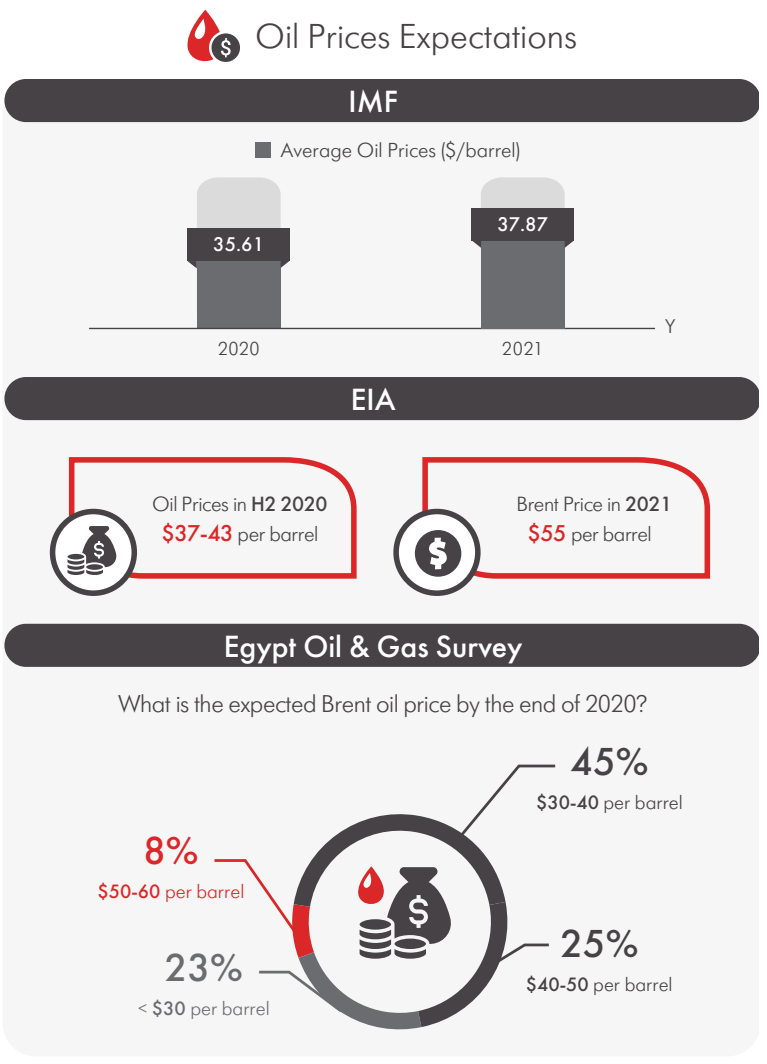
Major Events Affected Oil Prices in the Outbreak



International oil prices declined by an average of 66% from November 2019 to April 2020. Brent crude oil declined from $62.43 per barrel to $25.27 per barrel. Meanwhile, WTI oil price decreased from $55.17 per barrel to $18.84 per barrel,

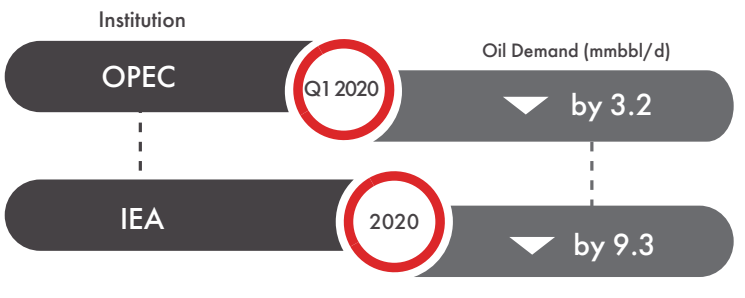
while the OPEC Basket prices fell to $18.05 per barrel down from $63.83 per barrel, according to Bloomberg and OPEC Secretariat.





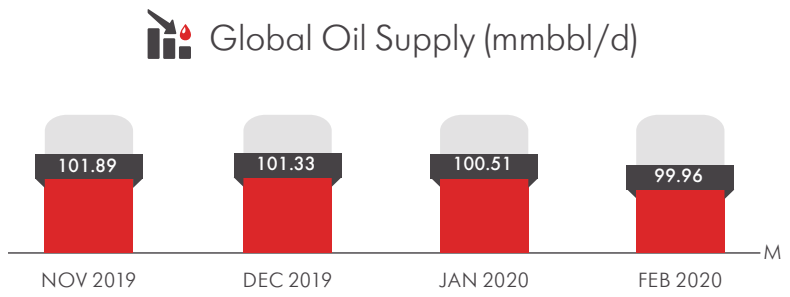
ii. Effects on Global Oil Demand & Supply

As a result of the outbreak, the global oil demand has been negatively affected. During Q1 2020, the demand was estimated to decrease from 100.8 million barrels per day (mmbbl/d) to 97.6 mmbbl/d, according to OPEC Secretariat.



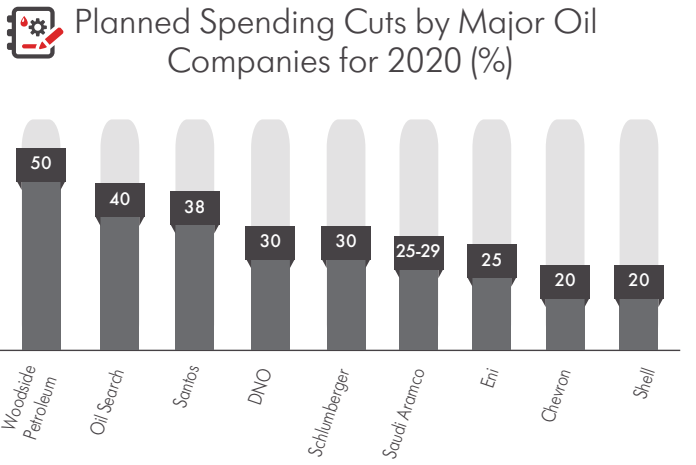
The demand on global marine fuel was expected to increase to 4.2 mmbbl/d in 2020, according to OPEC's expectations in the World Oil Outlook. However, the outbreak has become a game changer, driving the demand to lower values. In addition, the demand on jet fuel is expected to decrease by 6.6% in 2020.

On the other hand, the global oil supply decreased by 0.8 mmbbl/d in January to reach 100.5 mmbbl/d and then declined by 0.6 mmbbl/d, recording 99.96 mmbbl/d in February. Over the period from November 2019-February 2020, global oil supply declined by about 2%, according to the IEA's Oil Market Report, published in March.



iii. Impact on IOCs Spending Cuts

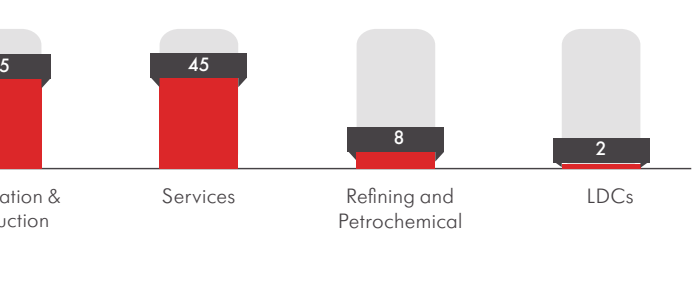
Investment in exploration and production (E&P) activities in the petroleum sector was set to hit over half a trillion dollars in 2020, according to the French research body IFP Energies nouvelles (IFPEN). However, the emergence of COVID-19 has overthrown all forecasts. Since March, more than 21 international oil companies (IOCs) have announced capital cuts ranging from 20% to 50% for 2020 in comparison to 2019.



COVID-19'S EXPECTED EFFECTS ON THE EGYPTIAN OIL & GAS MARKET

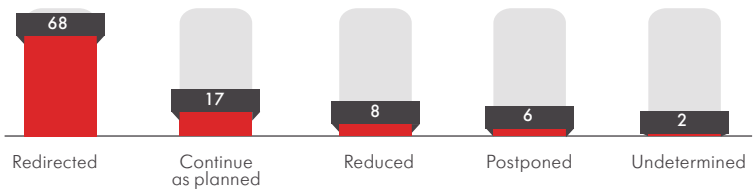
i. Oil & Gas Companies and their Investments

The shock-waves from the outbreak have been reflected in the performance of the oil and gas companies in the Egyptian petroleum sector. Most of the current projects are still operating; however, they will take more time to be accomplished due to the curfew, which increases the corresponding cost of renting the rigs, hence, increasing the production cost. Due to these relatively higher production costs, the Egyptian General Petroleum Corporation (EGPC) and some oil producing companies sent official letters to the petroleum services companies asking for a reduction in services' cost by 20%-40%, stated by Omar Ezz El Din, CEO of the International Naval Works company, to the local media.



For investments, the petroleum sector has executed nine projects with investments of EGP 11.7 billion in H1 2019/20. Meanwhile, the net Foreign Direct Investment (FDI) to the sector increased by about 53% in Q1 2019/20 compared to the same period in fiscal year (FY) 2018/19, to reach about $256 million.

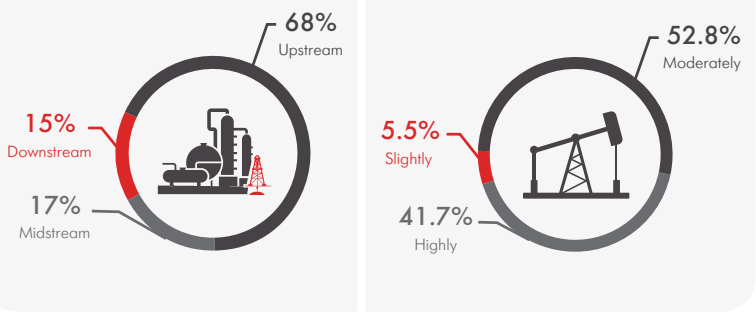
How will IOCs' investments plans be affected in 2020 and 2021? (%)



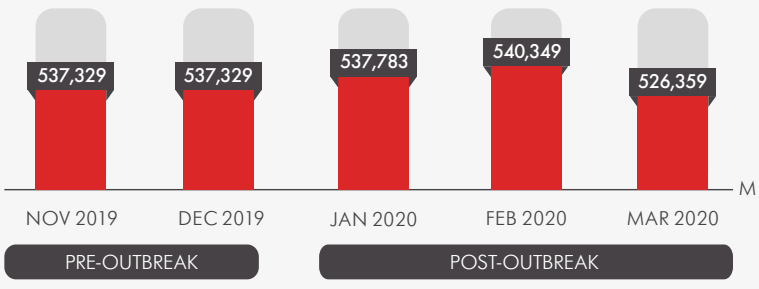
ii. Upstream Activities

According to the survey results, upstream activities will be the most affected activities by COVID-19. The outbreak is expected to have an impact on production, drilling, and field development activities. As the global crude oil production is expected to decline, the official data of the EGPC shows a consistent reaction for the Egyptian crude oil production which exhibited a 2.6% decline between February-March.

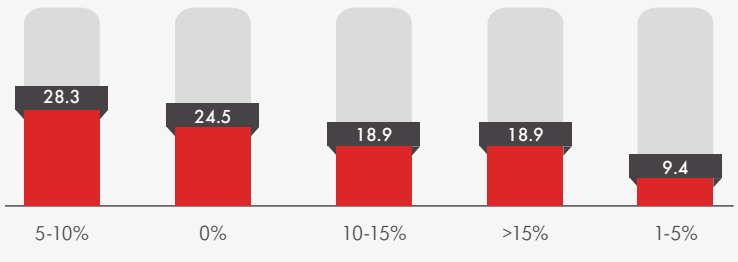
Which activities will be more affected ? And how ?



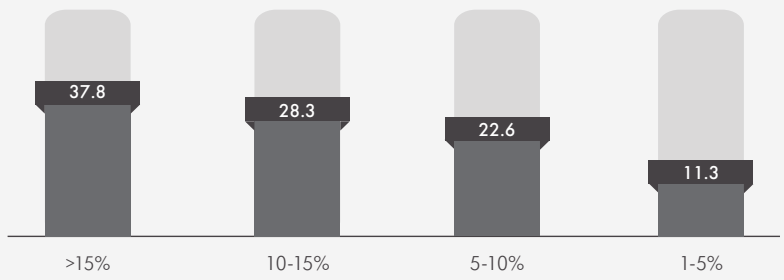
Egypt's Crude Oil Production (bbl/d)



By how much will the production decline? (%)



By how much will the drilling activities decline? (%)



Which type of activities will be more affected?



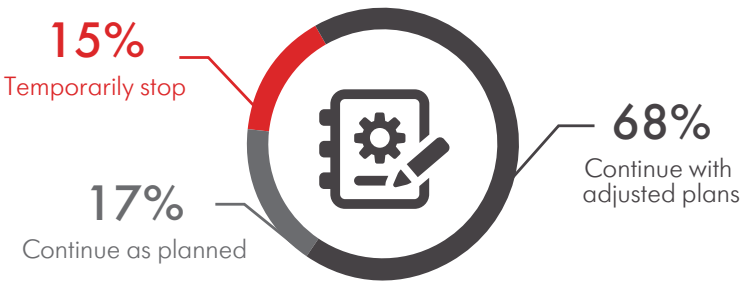
In 2019, 10 petroleum development projects were conducted, which added 15,400 barrels per day (bbl/d) of crude oil and condensates, and 1.8 billion cubic feet per day (bcf/d) of natural gas, according to a press release by the Ministry of Petroleum and Mineral Resources (MoP). However, after the COVID-19 outbreak, the field development activities are expected to slow down as IOCs head to cut spending, whereas the expectations of the majority of sector's experts in the survey show that investments will be redirected.

iii. Midstream & Downstream Activities

In Q1 2020, Middle East Oil Refinery (MIDOR), one of the biggest refineries in Egypt, has refined about 9.3 mmbbl of domestic and imported crude oil, according to a ministerial press release published in April.

Moreover, with the aim of reducing the government's burden of importing butane for local consumption, in H1 2019/20, natural gas was widely delivered to 630,000 residential consumers, 31 industrial facilities, and 1,045 commercial units. In H2 2019/20, natural gas connections are expected to reach about 570,000 residential units, bringing them to more than 1.2 million in FY 2020/21 with investment costs of EGP 4.7 billion, as stated in a ministerial press release to approve the Egyptian Natural Gas Holding Company's (EGAS) planned budget for FY 2020/21.

What will be the effect on the national gas grid and refining expansion projects?



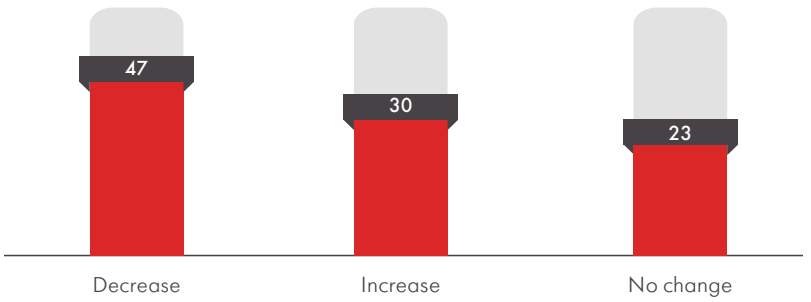
Regarding the midstream activities, it is worth mentioning that the quantity of petroleum products transported by different channels in FY 2018/19 recorded 149.8 million tons (mmt), which cost a total of EGP 21.9 billion, according to the

Central Agency for Public Mobilization and Statistics' (CAPMAS) Annual Bulletin of Petroleum Materials Means of Transportation and Natural Gas in Egypt 2018/2019.

For the survey, most of the respondents explained that a decrease in cost was prompted by the decrease in fuel prices and the low oil demand with the high competition between transportation companies.



What is the expected effect on petroleum products transportation cost? (%)



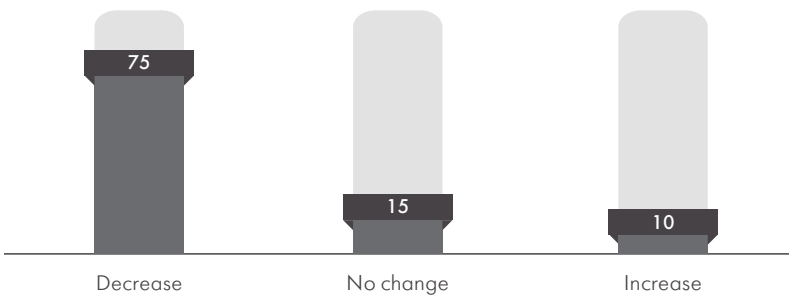
Concerning the local consumption of natural gas and petroleum products, in Q1 2019/20, the consumption recorded about 19.6 mmt, with a decline of 5.2%, compared to the same period a year before. The consumption of natural gas represents around 63% of the total local consumption, yet it declined by 4.9% compared to the same period a year before. This was due to the drop in natural gas consumption in power stations by 6%.

Meanwhile, the consumption of petroleum products decreased by 5.7% compared to the same period a year before, reaching 7.5 mmt, according to a ministerial press published in November 2019.

It is expected that the petroleum products' consumption will be affected by two factors. The first factor is the curfew imposed by the government to reduce crowds on public transportation, which the Egyptian Cabinet announced on March 24. The second factor is the latest decision of the Automatic Pricing Committee, taken on April 10, to reduce fuel prices by a rate of 3-8%, according to a press release by the MoP.



What is the expected effect on petroleum products demand by end users? (%)



iv. Other Effects

The petroleum activities are not the only variables affected by the outbreak as the employment rate is one of the most vulnerable factors when it comes to the COVID-19 outbreak effect.



Which work category will be more affected?





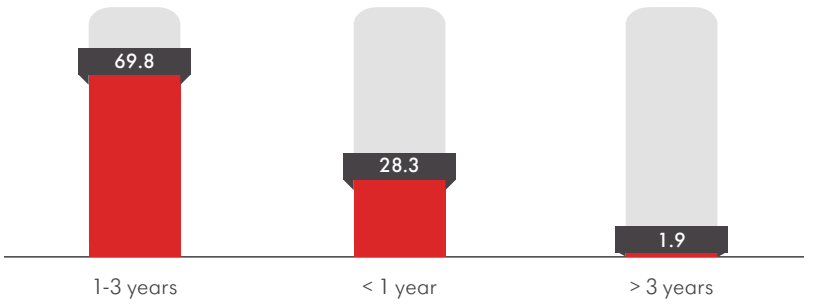
How will Day-to-day workers be affected?



The survey's respondents further clarified that for companies to cope with the current circumstances, they should focus on the Health, Safety, and Environment (HSE) performance especially the safety of the staff. Companies also should reduce current costs and look forward to the future demand and exploration.



When will the petroleum sector be able to recover from this outbreak? (%)



According to the results, the petroleum sector as a whole might recover the losses and restore its normal performance in a period of one to three years. Since global crises usually take a longer time to recover, such range is relatively considered a quick recovery. According to the companies, policy makers, and governments' upcoming responses and acts, in addition to the speed of finding a vaccine for the pandemic, gradually, the petroleum sector will reshape itself and recover back again.

