

## Oil and Gas Operations Post Covid - 19: The only way forward for sector players.

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Oil and gas companies operate in some of the most physically and politically challenging environments in Nigeria. Volatile market prices, changing demand, multifaceted regulatory requirements, multiple third party suppliers, and workers with widely varying skill levels further complicate operations. However, the recent decline of oil prices to the lowest levels in 2 decades is a wake-up call for many players to take deliberate steps to build more resilient businesses by optimizing their operations.



### COVID-19 inflicts fresh pain

During the first quarter of 2020, the industry was hit by the double whammy of a price war between OPEC and Russia combined with the COVID-19 pandemic that effectively shut down the global economy for about a month. From \$65 per barrel at the beginning of the year, the Brent Crude price crashed to under \$20 per barrel before recovering to above \$30 recently. The decline has inflicted great pain on a sector already begging for fiscal reforms that can catalyse greater investment. While several operators in the United States have already filed or pre-filed for bankruptcy, Nigeria oil and gas producers are reeling under the pressure of significant debt used to fund the development of assets..

### Upcoming Marginal Field Bid Round

The recent approval granted by President Buhari for the country to conduct a bid round for marginal oil fields has drawn fresh attention to the investment potential of Nigeria's oil and gas sector. However, the sharp decline in oil prices after the global spread of COVID-19, has weakened the investment case for oil and gas players. Investors in greenfield and brownfield projects must reinvent their operations to survive and then thrive in the current down cycle. Product and process optimisation offers a viable path to stability and, ultimately, profitability.





## Exposing a sector's underbelly

The recent oil price decline reveals vulnerabilities in the operations of oil and gas producers that are less obvious in a high oil price environment. Many Nigerian oil and gas companies are simply not efficient producers. This is not just a problem in the upstream segment of the industry. Indeed, inefficiencies are often observed in the operations of mid-stream and downstream players. These inadequacies include poor budgetary discipline, aging equipment, sub-optimal production processes and poor vertical integration. In addition, the historical impact of the oil industry on the environment places a demand on producers to create a strategy that makes them more responsible corporate citizens. These issues are not new but the cost of not addressing them is magnified when the oil price drops very close to a producer's average production cost price.

## Unveiling inefficiencies

Overtime, brownfield plants operators become aware of the inefficiencies in their operations, especially when laden with aging infrastructure. Some operators may wrongly conclude that only a complete overhaul of the plant can make their operations more efficient. However, experience shows that most processing plants have a number of hidden opportunities that can be exploited to better the company's financial health. For example, when the feed composition or product quality no longer matches the original design and purpose of the plant, relatively minor and inexpensive physical changes can be made to adapt operations. In addition, because most plants are constructed with a 10% to 20% over design margin, there is a latent capacity that can be unearthed with moderate changes to the plant. Additional gains in capacity or efficiency that surpass the cost can be often made by the upgrade or replacement of some equipment. A number of underperforming, high-maintenance equipment may also undermine an entire plant's productivity.



## Optimising Operations

Greenfield and brownfield project developers should prioritise production and process optimization. They must adopt modern engineering methods that can deliver the desired efficiency gains and work with firms with the requisite knowledge and experience to deploy the needed solutions.

Engineering firms are able to help oil and gas operators become more efficient by deploying a wide range of solutions. In addition to feasibility studies, detailed engineering design, field development planning and screening, oil and gas project sponsors can extract efficiency gains from field optimization and debottlenecking.

While debottlenecking is not a process reserved for oil and gas companies, it is certainly one that can help oil and gas producers become more efficient. Most plants have some intrinsic, though mostly hidden, opportunities to boost their production capacities and efficiencies through troubleshooting and debottlenecking. These efforts can be carried out quickly and safely, at a fraction of the cost required to build new facilities of equivalent capacity. For example, a successful debottlenecking project in a gas treatment facility can result in a substantial capacity increase, delivering a significant financial benefit.

There is also an opportunity for oil producers to diversify their operations by harnessing the gas associated with their operations. Some oil producers have ignored the potential financial benefit of gas production. While this may require new investments in infrastructure, the reward is the creation of a new revenue stream from the supply of gas for LNG projects and to petrochemical industries that require gas as a feedstock.

Another diversification opportunity is the creation of modular refineries which can refine crude oil to meet local demand for petrol and other refined petroleum products. Oil producers can collaborate with infrastructure developers and project financiers to build modular refineries, gas gathering facilities, flow lines and pipelines that can connect stranded gas assets managed by small to medium sized operators.

## Looking forward

As investors look ahead into an uncertain business environment and consider acquiring any of the marginal fields to be auctioned by the Nigerian government, the recent oil price crash must motivate industry players to embrace a culture of efficiency and explore opportunities for the vertical integration of their operations. In the process of adopting changes that bring greater product and process optimization, they position their projects to weather the storm of low oil prices better and capture the upside of a price rebound in the future.

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