

NIGERIA'S MARGINAL FIELDS:

REDUCING TIME TO FIRST OIL

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As the Nigerian authorities prepare to award licences for 57 marginal fields later this year, how can successful operators fast track to first oil? Exploring less conventional pathways may be the answer, and companies increasingly need to factor reducing emissions into their strategy too...

When it comes to achieving first oil in relatively short order, one principle invariably holds true for operators as they shape their development plan: change is the enemy.

We've held to that principle in helping deliver numerous projects in West Africa and around the world over the years – and it's one that the prospective new licence holders in Nigeria should bear in mind as they map out a swift and efficient route to initial production.

A total of 161 companies have been shortlisted by the country's Department of Petroleum Resources to advance to the next round of the bid process. Many of those will already be making initial plans, depending on the status and nature of their target fields. Whilst working with operators, we consistently emphasise the importance of settling early – and with confidence – on the bounding parameters of the development solution.

Make safe assumptions on the main functionalities of the asset and use key parameters such as site-specific soil and environmental data to understand and establish the production location. From there, most other elements of the development can fall into place relatively simply. There will always be room for comparatively minor change, but the direction of travel has been positively set.

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can move forward with pace. Done early, it also positions operators to understand and progress long-lead items and assess their fabrication options in good time.

The latter point is particularly pertinent in the context of the Nigeria bid round. The scale and timeframe of the process, alongside the emphasis on local content, means there will probably be serious competition for in-country engineering support and fabrication yard space.

Nigeria, as a mature hydrocarbon producing country, has a well-developed indigenous workforce, technical capability and manufacturing infrastructure, but of course it has finite capacity. The 'queue here' signs will likely be up at many of these resources before too much longer.

The smaller scale of some of the bidding companies is also a factor. They're unlikely to have the technical resources in-house across many of the key disciplines, and will thus require external specialist support.



VALUE-ADDING ALTERNATIVES

For bidders looking to avoid manufacturing pressure points – while at the same time injecting new efficiency into the process and securing significant decarbonisation benefits – there are options if they choose to sidestep the conventional development model.

Our alternative offering is particularly evident in our infrastructure solutions: specifically, the modular Sea Swift platform, which is operational across four projects in the region today and is specially designed to reduce time to first oil in shallow water developments. The conductor supported design of the platform, critically, offers fabrication flexibility – its fabrication requires a smaller facility than a conventional jacket for the same water depths and can even be spread across a number of smaller yards, for example, supporting local content goals while making use of specialist facilities elsewhere – and reduces both build and installation costs.

More broadly, however, those options are also inherent in our service offering, which encompasses much of the development lifecycle: engineering, design, build, installation and commissioning. We have long-standing experience in West Africa from supplying a platform for the Lifua-A field, off the coast of Angola for Chevron and we also won work with South Atlantic Petroleum (SAPETRO), off the West African coast, for a minimum facilities Conductor Supported Platform – to name a few. Our experience demonstrates how operators can benefit from partnering with us for support, ranging from discrete engineering studies such as FEED through full detailed design, right up to full EPCIC work scopes. And our project management capabilities mean we can deliver an overarching, integrated package.

A good example of this was our work on the Airoga and Solha Rig Assembled Conductor Platform structures, offshore Angola, where we were contracted to design, manufacture and install two satellite platforms. The platforms were designed to accommodate minimum processing facilities, and to be rig installable to minimise installation costs. In addition, installation needed to fit in with the drilling programme, to reduce downtime, so as much as possible was done offline. The platform installation was considered a complete success by the client with all operations being seamlessly integrated into the drilling programme and completed on schedule, safely and without incident. The installation of the

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facilities equipment, risers and I-tubes were successfully completed in less than two incremental rig days, leaving the rig to resume drilling operations with minimal disruption.

This approach yields two strategic gains. By harnessing the strengths of Aquaterra Energy to manage the entire process, operators have confidence that potential gaps and issues at critical interfaces are understood and eliminated. They also benefit from local knowledge: we understand the market, its dynamics, challenges, pitfalls and priorities – and use those insights to make a material difference.

VALUE-ADDING ALTERNATIVES

Smaller marginal field developments also present distinct opportunities for operators to deliver on their emissions objectives; opportunities we've sought to exploit on behalf of clients. An example – based on the selection of the Sea Swift as the structural solution: given that a jack-up rig is likely to be on site already for drilling operations, using it to install the platform removes entirely the need to bring a heavy lift vessel (HLV) on location. The carbon reduction benefit? It's calculated that sailing an HLV from Western Europe to West Africa for an individual task results in around 3,500 tonnes of CO2 emissions. Bear in mind, too, that Sea Swift is designed with up to 30 per cent less steel than off-the-shelf jacketed options (a notoriously carbon-intensive material) and can be fabricated in-country to reduce transportation emissions.

We've also supported the installation of a smaller shallow-water platform that is fully powered by renewable sources (such as wind and solar) – eliminating diesel consumption offshore and the regular supply required trips to supply fuel. With Nigeria targeting a 20 per cent reduction in greenhouse gas emissions by 2030, operators can therefore position themselves to support country ambitions, as well as those of their business and the industry.

There are similar drivers behind the issue of local content, which of course is also a prime consideration in ESG initiatives. In 2020, the delivery of just one of our projects in West Africa created over 300,000 hours of paid employment in-country. As a company, we are committed to generating and increasing local content, and look to work with our clients to understand how to meet these obligations, track the performance and identify areas where this can be increased.

In these respects, change is no enemy. In a fast-evolving industry, companies which respond best to efficiency imperatives, ESG obligations and technological advances undoubtedly have an edge – and we're primed to support you in every respect.

FIND OUT HOW WE CAN HELP TO SUPPORT YOUR RECENT ASSET WIN AND REDUCING ITS TIME TO FIRST OIL.

Contact us to learn more

ABOUT AQUATERRA ENERGY

At Aquaterra Energy, we help the offshore energy industry increase efficiencies, reduce costs and support decarbonisation efforts, through a range of products and solutions. We specialise in minimum facilities platforms, riser systems and the analysis, tools and products needed from the first days of an offshore operation, through to asset life extension, decommissioning and support for CCS projects.

Find out more: www.aquaterraenergy.com