

Case study: Nigeria

Integrated Baker Hughes approach triples production in marginal field

An operator of a marginal field in Nigeria, Green Energy International Limited, needed a cost-effective well construction solution to boost production and raise revenue from two previously identified reservoir sections.

While the field's previous operator had drilled and completed several wells, the current owner had limited experience managing a drilling campaign of this type. A tight drilling budget, short schedule, and limited in-house technical staff presented challenges to manage the various service contracts for the project.

The operator required a turnkey project delivery plan managed by a single service provider, so the operator contacted Baker Hughes Integrated Well Services and Solutions (IWSS).

Aligning on the well plan

The IWSS integrated project management approach has successfully delivered wells globally. The operator wanted to leverage this proven well construction experience to safely drill, complete, and produce from two development wells.

Baker Hughes IWSS and regional management teams collaborated with the client to design a bespoke, integrated solution—from initial well planning and mobilization to execution and demobilization. Each step of the project would be managed in full alignment with the operator's budget and technical requirements.

The Baker Hughes IWSS team managed all logistics and regulatory compliance

issues. In addition, a dedicated IWSS project manager was assigned to provide the client regular updates at each stage of well planning and execution.

Designing the solution

The IWSS team implemented services from several Baker Hughes product lines, including:

- Completions and well intervention
- Wireline services
- Drill bits
- Drilling and completion fluids
- Drilling services
- Pressure pumping

The team also assembled and managed a consortium of channel partners and third-party vendors. This consortium was tasked with providing additional support in well engineering; rig and ancillary services; and long-lead items, products, and services.

IWSS assigned a local partner to facilitate service integration, drive local content utilization, improve competency development, and ensure compliance with local regulations.

Regular reviews allowed the IWSS team and operator to discuss the project's progress to plan and identify potential design modifications that could improve well delivery and long-term production.

When unforeseen challenges arose, the team consulted Baker Hughes subject matter experts to draw on their

Challenges

- Complicated operating logistics due to swampy terrain, inclement weather conditions, and security requirements
- Tight well construction schedule and budget
- Limited number of client technical staff
- Elevated drilling risks based on client's limited well construction experience and lack of available offset data

Results

- Tripled production from an initial field production of 3,900 BOPD to ~ 11,500+ BOPD—Client commented that "Could not increase production more because the facilities can only handle so much"
- Decreased overhead costs
- Increased efficiency with lean project organization
- Generated additional cash flow to fund further field development plans
- Validated IWSS project delivery approach, setting an example for independent operators in Nigeria
- Reduced delivery time from 105 days for first well to 54 days for the second well

own knowledge and the company's extensive global project delivery experience to quickly offer fit-for-purpose solutions.

Executing with predictable performance

The IWSS and SSA regional team's early and consistent client engagement, coupled with ongoing technical support during project planning and execution helped the operator achieve its well construction objectives.

The two development wells were drilled, completed, and successfully brought into production with zero

lost-time safety incidents—fully meeting the client's delivery and performance expectations.

The two wells tripled field production, from 3,900 to ~11,500+ barrels of oil per day (BOPD).

Streamlined communication through an IWSS project manager coupled with regular operational updates from all project parties helped minimize operator uncertainties and facilitate seamless project execution.

The integrated project approach also helped the IWSS team quickly overcome a learning curve to improve

well delivery from the first to the second well. The second well was fully completed and brought online in 54 days, a **95% improvement** over the 105 days required for the first well.

By lowering overhead costs and maximizing field production, the integrated project generated additional cash flow that the operator directed to future field developments.

This successful project validated IWSS's novel integrated project management approach to well delivery and provided a clear roadmap for other independent operators in Nigeria to follow.

