Effective Cost Management in the Oil and Gas sector

Industry perspective

OPTS presentation

October 29th, 2019

The Oil & Gas sector is critically important to Nigeria

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80% *Percentage oil and gas sector contributes to Nigeria's total annual exports*

50% *Percentage contribution of oil and gas sector to overall Federal Government revenue*

10% *Percentage of Nigeria's GDP*

It is therefore crucial to ensure that Nigeria has a healthy and competitive oil and gas sector

There is a significant cost premium in the Oil and Gas industry in Nigeria *vis à vis* other oil producing geographies

2015 Data

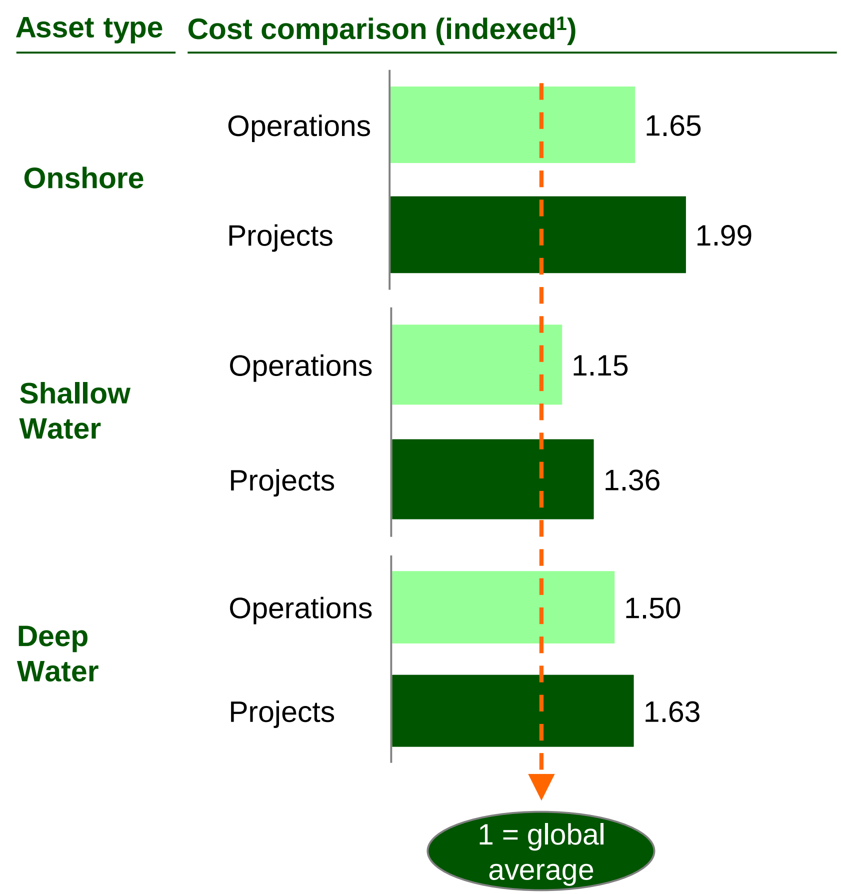
Scope and approach of benchmarking study

100+ assets operations clustered in 3 main basins

40+ capital projects from different regions

- Benchmarked similar operations and projects; both sets included African comparisons
- Selected specific samples based on similar technical specifications (such as geography, water depth, hydrocarbon composition and capacity)
- Normalized benchmarking results to correct for asset complexity, global inflation and asset maturity

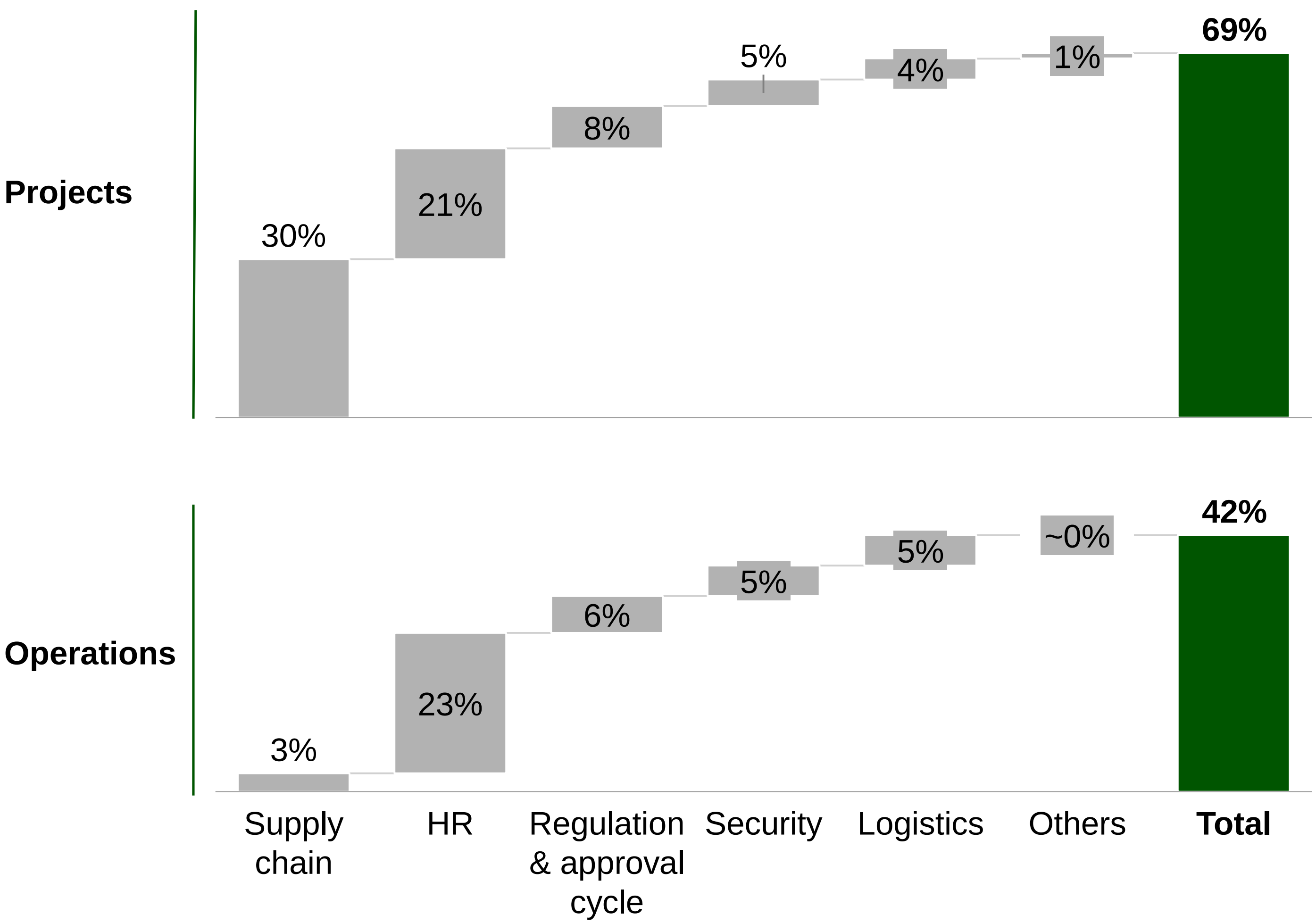
Upstream cost benchmark Nigeria vs Global



1 Any index >1 represents "Nigerian Premium"

Cost premium driven by multiple factors requiring action from both Government and Industry

Nigeria cost premium breakdown[1] %



- Majority of cost premium related to legal and regulatory requirements that can be influenced by Government and public institutions
- ~20% of premium could possibly be addressed annually by cost efficiency optimization programs from the industry

1 Weighted average cost performance benchmarked to the global median | 2 Capex is based on expected project spend between 2015 - 2025

Cost competitiveness of the sector needs to increase if Nigeria is to compete against other geographies for capturing new investments

Investment in African Deep Water projects

Deep Water projects currently onstream or under development with production start date 2010 or later and >$1bn in total capital expenditure

Country	Number of fields[2]	# FID by date 08-12	# FID by date 13-18	Total capex of these projects $bn
Angola	9	6	3	83
Egypt[1]	3	0	3	26
Ghana	5	2	3	22
Nigeria	3	2	1	27
Eq. Guinea	1	1	0	2
Mozambique	1	0	1	2
Congo	1	1	0	1

- Nigeria has seen a slow progression of projects compared to other geographies, and limited FIDs
- Projects without consolidation and tax benefits **are not viable despite industry's significant reduction in costs**

1 Egypt is able to unlock gas developments by negotiating more favorable ad hoc fiscal terms 2 Parent-level & standalone

SOURCE: Wood Mackenzie Upstream Data Tool 2019

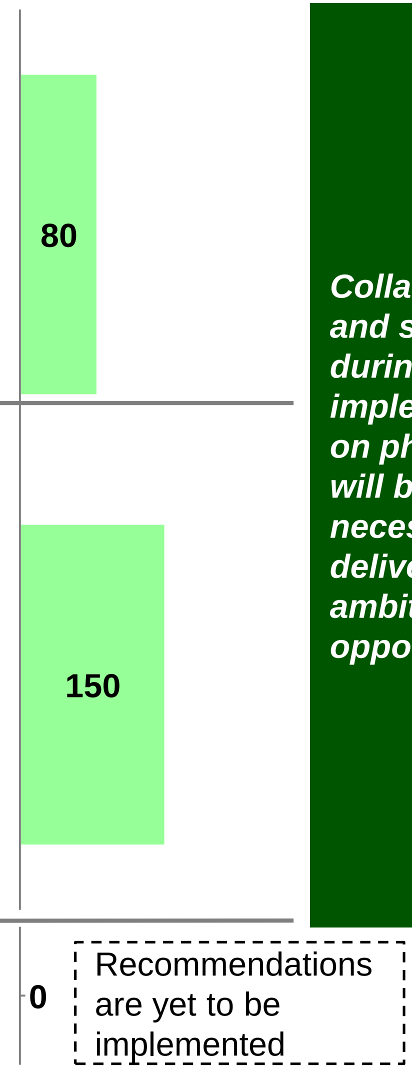
The industry is doing everything possible to reduce costs where possible

Collaborative efforts through ICE program

Individual IOC efforts

Industry has been collaborating to reduce costs through the ICE program, with promising early savings

Areas of cost reduction	Sample initiatives	Implemented and ongoing initiatives USD Mn run rate
Supply Chain	**Surplus inventory reduction:** Utilizing surplus inventory across operators (e.g. OCTG pipes that are left over after a project) **Supply chain optimization:** Reducing transport costs by bundling volumes (e.g. methanol) **Industry wide equipment and activity planning (IWEAP):** Sub-leasing and sharing of high value equipment to increase utilization (e.g. sharing of rigs, dive support vessels etc.)	80
Logistics & security	**Industry Wide Standard Tariff (IWST):** Renegotiating rates with Intels on logistics services **Helicopter sharing:** Sharing helicopters between (e.g., successful pilot for sharing an S92 in Lagos) **NPA and OGFZA:** Engaging with stakeholders to prevent increase in operational costs paid to stevedores and charges due at the Free Zone Area **Joint security convoy:** Exploring shared convoys across IOCs to increase utilization of security vessels and optimize cost	150
Contract approval	**Contract approval process optimization:** Introducing global best practices to accelerate contract approval process while maintaining the required oversight	0



Collaboration and support during the implementation phases will be necessary to deliver on the ambition and opportunities

Note: Pilots are still ongoing to test most of the initiatives

In addition, each IOC has put in place several individual initiatives to further optimize costs

Experience

- IOCs always strive to optimize operations in a cost effective manner by;
  - Instilling **a performance and cost saving culture** across operated and non-operated assets
  - Encouraging a **culture of disciplined implementation and bias for action**
  - **Collaboratively implementing cost saving initiatives,** with and across the 5 IOCs

Programs

- **Lean "production" operations:** extensive waste elimination ('Zero Waste') campaign leveraging Change Ambassadors
- **Inventory reduction initiative:** Reduce overall levels of inventory and hence reduce cost of warehousing and of holding inventory
- **Vendor management and long term contracting:** Re-tendering and rationalizing vendor engagement; bundling services and awarding contracts on longer term basis
- **Digital transformation:** Implementing High Impact Technologies and Digital Transformation initiatives

Progress

- **Over $200M[1]** cost reduction from various **Opex initiatives** across IOCs
- Each IOC already implementing ~**100 - 600[1] cost reduction initiatives**

1 Estimated based on respective IOC input

However there are still multiple structural cost premium root causes that require Government and Industry to work together

	Examples (Focus area: orange)
1 **Inefficient Supply chain**	▪ Cost from repetitive **investments in capability and capacity** developments – leading to short term behaviors and limited ability to invest ▪ **Illiquid local markets** leading to **inflated contract prices** and involvement of agents
2 **Community & security issues**	▪ Significant **additional security costs** to ensure safe operations (incl. indirect contractor premium) ▪ **LTO cost (**e.g. CSR, community contributions) ▪ Production / project **interruptions** due to unrest
3 **Regulations & approval cycle** (Focus area)	▪ Long **contract approval cycles** ▪ Risk of changes in **regulatory regimes and policies** ▪ Additional regulatory requirements leading to additional costs (additional specifications added to scope, "regulatory PoB")
4 **Logistics**	▪ High **warehousing and inventory** due to long lead-times and **limited local supplier base** ▪ **Fragment operational supply** base
5 **HR & labor productivity**	▪ High **SG&A cost** ▪ Delays and additional costs due to **industrial actions** ▪ Limited **skill level** of most **local contractors**
6 **JV Funding**	▪ Significant **schedule delays** with potential resulting cost escalation

SOURCE: IOC project and asset team interviews, team analysis

One of the biggest drivers of the cost premium is the long and ineffective contract approval cycle

Challenge

- **It takes an average of 38 months to award an oil and gas contract in Nigeria**, which is significantly longer when compared with any of Nigeria's international peers
- **The long and cumbersome process increases the cost and uncertainty** for both operators and suppliers, contributing to the cost premium

Root Causes

Many approval steps and long approval timelines

- **13 separate approval steps** consume significant approval time
- IOCs also contribute to inefficiency
- **Lack of supplier qualification** alignment (NIPEX)

High workload for approval teams

- **High number of tenders** go through the process every year (100 – 150)
- Driven by **low tender value threshold** that has not been increased since 1991 despite cost inflation and **allowed contract duration of only 3 years**

Process differentiation between approval teams and high number of bidders

- **Process differs from tender to tender** and does not match the Joint Operating Agreement
- **All contractors listed on the NIPEX system are entitled to bid in open contracts**

The contract approval cycle time is much longer in Nigeria and the tendering threshold value is significantly higher vs. other geographies

Country	Average cycle time Months	Allowed contract duration Months	Threshold value
Nigeria	38	36	0.5m USD (JVs) 0.25m USD (PSC)
Angola	9	80	5m USD
Malaysia	9	72	12.5m USD
Kazakhstan	6	80	25m USD or > 2-year contract
Indonesia	9	Unlimited	5m USD
Papa New Guinea	No info	Unlimited	10 m USD for open tender 5m USD for single source

NNPC's drive to achieve 6 months will not be feasible if alignment between NAPIMS and NCDMB is not achieved

SOURCE: Expert interviews

The industry's recommendations would reduce current contract cycle time from ~38 to 6 months

Quick-wins detailed next

	Proposed solutions	Approval cycle duration	# tenders in NIPEX
A	**Increase the threshold value for the tendering process** – Increasing NAPIMS threshold to 5m USD (or Naira equivalent)	0%	- 36%
B	**Increase allowed contract duration** - Increasing maximum contract duration for capital intense / high risk contracts to 5+5 years	0%	- 30%
C	**Rationalize NIPEX listing and ensure consistency with NCDMB database** – Making NCDMB qualification pre-requisite to register in NIPEX	- 20%	0%
D	**Improve NIPEX set-up and interfaces** – Creating one platform for all interaction (submission and approval)	No direct impact; **enabler for other initiatives**	
E	**Recommit to faster approval and response times** – Issuing SLA with response times of 2-3 weeks (in line with NCDMB SLA)	- 35-55%	0%
F	**Simplify approval process and synchronize steps** – Taking out, simplifying and streamlining process steps	- 25-30%	0%
	Total impact after correction for double counting[1]:	- 55-85%	- 55%

Considering all tenders in scope, the quick-wins could deliver **75-90%[2] reduction on tendering time,** resulting in **equivalent contract cycle time of 4-9 months**

1 Approximated correction consists of: i) 18% for cycle time reduction, ii) 11% for number tenders reduction
2 Including an additional correction for double counting of 35-50%, for combining cycle time reduction and reduction in number of tenders

A Increasing threshold value ensures regulators are focused on key contracts and operators can be agile to leverage market conditions

Situation

- NAPIMS' **current tender approval thresholds** stand at:
  - **0.5m USD** for JVs
  - **0.25m USD** for PSCs
- Additionally, there is a threshold for Naira spend of **10m NGN** which is **not linked** to the USD threshold by **current exchange rates**

Challenge

- **Disperses regulatory oversight** and leaves **NNPC/NAPIMS** short on resources to analyze high-value contracts that determine most value sharing
- **Slows down operators** and limits ability to leverage **market conditions to lower costs** (e.g. idle capacity in the market)

Recommendation

- Request **NNPC GMD** to **issue directive to increase threshold** value to **5m USD** for both JV and PSC to reduce the number of tenders in the process by ~36%
- Increase Naira **approval threshold** to **5m USD** as well based on **equivalent Naira amount** at day of tender submission
- Industry to provide NAPIMS with **quarterly list** of tenders **below new threshold**

1 731 tenders currently in process as at April 2019

SOURCE: Tender download in NIPEX (April, 2016 and April, 2019)

B Increasing the allowed contract duration would reduce the number of tenders in the process, as well as associated workload and costs

Situation

- Currently, **contract duration** is **capped at 3 years** for most projects
- This is **less than** the **average process cycle** time of ~**38 months**

Challenge

- **Slows down projects and production** due to continuous services have to be **re-tendered regularly**
- **Creates significant extra workload** for the industry which in turn generates **higher overhead costs**
- **Limits ability for contractors to invest and be more efficient** due to short contract duration (typically 3 years)

Recommendation

- Request **NNPC GMD** to **issue directive to increase maximum allowed contract duration for high investment / high risk tenders** (e.g. sea wharfs, aircraft, rigs, marine vessels) to **5+5 year contract length** - duration for **simpler contracts can** remain **unchanged**
- This will **increase opportunities** for Nigerian **local content development**

SOURCE: Tender download in NIPEX (April, 2016)

C Moving to a single contractor database with stricter quality and performance criteria would enable efficiency gains and lower costs

Situation

- Inconsistency between contractors listed in NIPEX and NCDMB database
- Relatively **high number of con-tractors** in registered in NIPEX that do **not meet pre-aligned** category criteria they are listed for in NIPEX

Challenge

- **Lower quality and performance contractors** leading to inefficiencies and extra costs
- Unnecessary **slows down** in the tendering process as unqualified contractors (e.g. not registered by NCDMB)

Recommendation

- ***Short term:*** request **NIPEX and NCDMB** to collaborate in **applying NCDMB registration a pre-requisite for listing of contractors in NIPEX** (i.e. remove contractors not meeting this criteria from NIPEX) – eliminating the need for two parallel databases to be used in tendering process
- ***Medium term:*** set up a team consisting of **NCDMB, NAPIMS, NIPEX, PETAN and OPTS** representatives to **rationalize contractors listed in NIPEX by removing contractors not meeting the previously agreed category criteria**

SOURCE: Tender download in NIPEX (April, 2016)

The competitiveness of the Nigerian Oil and Gas sector is of paramount importance to the overall economy and needs to be urgently addressed to ensure its sustainability

Cost premium challenges are structural and largely beyond the control of any individual institution - resolving these challenges require~~s~~ leadership and joint collaboration

THANK YOU