

# The Shell Petroleum Company Limited

## Internal Investment Proposal

### Summary Information

Business unit and company	Shell Petroleum Development Company of Nigeria																																																																						
Group equity interest	100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of an unincorporated JV with a 30% interest.																																																																						
Other shareholders / partners	Nigeria National Petroleum Corporation (NNPC: 55%), Total Exploration & Production Nigeria Limited (TEPNG: 10%), Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV.																																																																						
Business or Function	Upstream International																																																																						
Amount	US\$16.78 mln Shell share MOD 50/50. (US\$26.70 mln 100% JV)																																																																						
Project	Gbaran Ubie Phase II Acceleration – Koroama TBUV2																																																																						
Main commitments	<table border="1"> <thead> <tr> <th>Description</th><th>Previously approved Pre-FID (100% JV)</th><th>Previously approved Pre-FID (30% Shell Share)</th><th>This Proposal (100% JV)</th><th>This Proposal (30% Shell Share)</th><th>NNPC MCA Carry (36.67% Shell Share) This Proposal</th><th>Total Shell Share (Equity + Carry) This Proposal</th><th>Total Budget (100% JV)</th><th>Total Shell Share (Equity + Carry)</th></tr> </thead> <tbody> <tr> <td>NAG Wells (Including Location Preparation)</td><td>15.9</td><td>4.8</td><td>19.4</td><td>5.83</td><td>7.12</td><td>12.95</td><td>35.3</td><td>17.7</td></tr> <tr> <td>Facilities and Pipelines</td><td>39.2</td><td>11.8</td><td>6.6</td><td>1.99</td><td>1.65</td><td>3.64</td><td>45.8</td><td>15.4</td></tr> <tr> <td><b>Total CAPEX (\$ mln)</b></td><td><b>55.1</b></td><td><b>16.5</b></td><td><b>26.1</b></td><td><b>7.82</b></td><td><b>8.77</b></td><td><b>16.59</b></td><td><b>81.2</b></td><td><b>33.1</b></td></tr> <tr> <td>SCD</td><td>0.3</td><td>0.1</td><td>0.7</td><td>0.20</td><td></td><td>0.20</td><td>1.0</td><td>0.3</td></tr> <tr> <td><b>Total OPEX (\$ mln)</b></td><td><b>0.3</b></td><td><b>0.1</b></td><td><b>0.7</b></td><td><b>0.20</b></td><td></td><td><b>0.20</b></td><td><b>1.0</b></td><td><b>0.3</b></td></tr> <tr> <td><b>Total Project (\$ mln)</b></td><td><b>55.4</b></td><td><b>16.6</b></td><td><b>26.7</b></td><td><b>8.01</b></td><td><b>8.77</b></td><td><b>16.78</b></td><td><b>82.1</b></td><td><b>33.4</b></td></tr> </tbody> </table>								Description	Previously approved Pre-FID (100% JV)	Previously approved Pre-FID (30% Shell Share)	This Proposal (100% JV)	This Proposal (30% Shell Share)	NNPC MCA Carry (36.67% Shell Share) This Proposal	Total Shell Share (Equity + Carry) This Proposal	Total Budget (100% JV)	Total Shell Share (Equity + Carry)	NAG Wells (Including Location Preparation)	15.9	4.8	19.4	5.83	7.12	12.95	35.3	17.7	Facilities and Pipelines	39.2	11.8	6.6	1.99	1.65	3.64	45.8	15.4	<b>Total CAPEX (\$ mln)</b>	<b>55.1</b>	<b>16.5</b>	<b>26.1</b>	<b>7.82</b>	<b>8.77</b>	<b>16.59</b>	<b>81.2</b>	<b>33.1</b>	SCD	0.3	0.1	0.7	0.20		0.20	1.0	0.3	<b>Total OPEX (\$ mln)</b>	<b>0.3</b>	<b>0.1</b>	<b>0.7</b>	<b>0.20</b>		<b>0.20</b>	<b>1.0</b>	<b>0.3</b>	<b>Total Project (\$ mln)</b>	<b>55.4</b>	<b>16.6</b>	<b>26.7</b>	<b>8.01</b>	<b>8.77</b>	<b>16.78</b>	<b>82.1</b>	<b>33.4</b>
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Summary cash flow	<p style="text-align: center;"><b>G U2 TBUV Well forward looking Cashflow (Shell Share PSV RV-RT12)</b></p>																																																																						
Summary economics –	Summary Economics (RV-RT12)		NPV7 (USD mln)		RTEP (%)		VIR7																																																																
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	High Capex		40.5		>50		2.12																																																																

## ***Section 1: The proposal (management summary)***

Approval is sought for US\$ 16.78 million SS MOD (US\$8.01mln Equity & US\$8.77mln Carry) to drill, complete and hook-up 1No NAG Development Well (Koroama TBUV-2). This well is part of the Gbaran Ubie Phase 2A (Infill) project that is being accelerated based on rig availability and following the validation of the feasibility of drilling Koroama TBUR-2 from TBUR cluster location.

The objective of the Gbaran Infill Project is to keep the 1Bscf/d Gbaran CPF full by developing 1.3Tscf of NAG through infill drilling in the Epu, Gbaran & Koroama fields with a potential of 760Mmscfd. Scope includes 11Nos NAG Wells (including 1No Appraisal & 1No recompletion), 60km CSS pipelines/ flowlines & 40km intersite composite cables. Others include 2Nos NAG manifolds, 3Nos remote facility sites, 2Nos slug catchers at Gbaran CPF and shoreline protection of the Northern Section of the Gbaran CPF.

The Gbaran Infill Project is post DG3 and currently at technical evaluation in the contracting process. Funding is to be provided via Alternative Funding (AF) using the Modified Carry Agreement (MCA) vehicle. Alignment has been reached with NAPIMS and other JV Partners regarding the cost estimate for the project. The agreed cost estimate (wells, facilities & owners cost) is as shown in Table 2 below.

The base plan was for Koroama TBUR-2 to be drilled as part of the Koroama TBUR cluster drilling with 5 wells on sequence to be drilled from Q1, 2014. However, based on location design constraint for cluster drilling which specifies a maximum of 4 wells per location, this well was accelerated to fill up the spare slot in the TBUR location. This is a quick win acceleration opportunity that will bolster the production of gas required to fulfil SPDC's supply commitments to NLNG and also keep the Gbaran Central Processing Facility (CPF) full.

Koroama TBUR-2 and TBUR-3 are currently being batch drilled after which it is proposed to skid over and batch drill Koroama TBUR-1 and TBUR-2. TBUR-2 will come on-stream Aug 2013 following the procurement and installation of hook-up materials.

The objective of Koroama TBUR-2 is to provide an optimum drainage point at the crest of E1000X reservoir and develop 159.74 Bscf of gas and 3.02 MMstb of associated condensate reserves at an initial production potential of 100 MMscf/d. The well will supply gas to NLNG.

A pre-FID proposal of US\$55.4mln 100% JV (US\$16.6mln 30% SS) was approved in Apr 2010 to enable front-end activities including FEED, Detailed Design, Procurement of LLI, Location Preparation, ESHIA, Survey, Land Acquisition & PMT. ITD spend from the pre-FID is US\$40.14mln 100% JV leaving US\$15.26mln 100% JV for outstanding location preparation works.

Koroama TBUR-2 cost estimate was supported by NAPIMS for AF/ MCA funding as part of Gbaran Ubie Phase 2A (Infill) Project. Pending the signing of the AF/ MCA agreement, LDL will be sought to fund the drilling.

The 50/50-project cost for this proposal is US\$16.78mln Shell share (US\$26.7mln 100% JV) CAPEX.

Table-1: Project Cost Schedule (This Proposal)

Cost Profile (US\$'000)	2012	2013	Total	Remarks
Loc Prep			-	Loc Prep completed under Phase 1
Drilling	11.50		11.50	
Compl	7.92		7.92	
Flowlines & Hookup	4.03	2.60	6.63	
Total Capex	23.45	2.60	26.05	
SCD	0.59	0.07	0.65	
Total Cost	24.04	2.67	26.70	

Table-2: Overall Project Cost (Gbaran Infill)

Description	COST PHASING						
	Previously approved Pre-FID	2012	2013	2014	2015	2016	Total
Facilities Capex 100% JV (FUS\$mln) - less PMT& SCD	36.6	8.6	111.4	273.0	259.4	93.7	782.7
Wells Capex 100% JV (FUS\$mln)	15.9	19.8	60.2	164.0	0.0	0.0	259.8
Total Capex 100% JV (FUS\$mln) - less PMT&SCD	52.5	28.4	171.5	437.0	259.4	93.7	1042.6
PMT 100% JV (FUS\$mln)	2.6	3.8	9.1	13.0	9.4	5.3	43.2
Opex 100% JV (FUS\$mln)	0.3	0.1	2.6	6.4	6.1	2.2	17.7
Total 100% JV (FUS\$ mln)	55.4	32.3	183.2	456.4	275.0	101.2	1103.5
Total 100% JV (FUS\$ mln) excluding Pre-FID							1048.1
Shell Share Equity (30%)	16.6	9.7	54.9	136.9	82.5	30.4	331.0
MCA Carry Shell Share (36.67%)		10.4	62.9	160.2	95.1	34.4	363.1
Total Shell Share (FUS\$ mln)	16.6	20.1	117.8	297.2	177.6	64.7	694.1
This proposal Total Shell Share excluding Pre-FID (FUS\$ mln)							677.5

## Section 2: Value proposition and strategic and financial context

Koroama TBUV-2 will develop expectation reserves of 26.8 MMboe (385kbbbls and 153.46Bscf condensate and gas respectively), 100% SPDC JV. The production from the well will increase the utilization of Gbaran CPF and support gas supply to the NLNG.

### 2.2 Summary Economics

The economics evaluation for this project was carried out on a forward-looking basis. The value of the base case was determined using 50/50 level III cost estimate and production forecast for the well. Sensitivity analysis was carried out to determine the values of the project at different production volumes and high CAPEX. An additional BVA (Benchmark Verified and Approved) sensitivity was evaluated to address cost disputes with NNPC resulting in a 1.5% cost mark up. For each of these sensitivities, the project showed very robust economic indicators. This is due to the low capital expenditure and the utilization of existing facilities. (See table-2). The evaluation assumed funding under the 2008 Modified Carry Arrangement (MCA) terms.

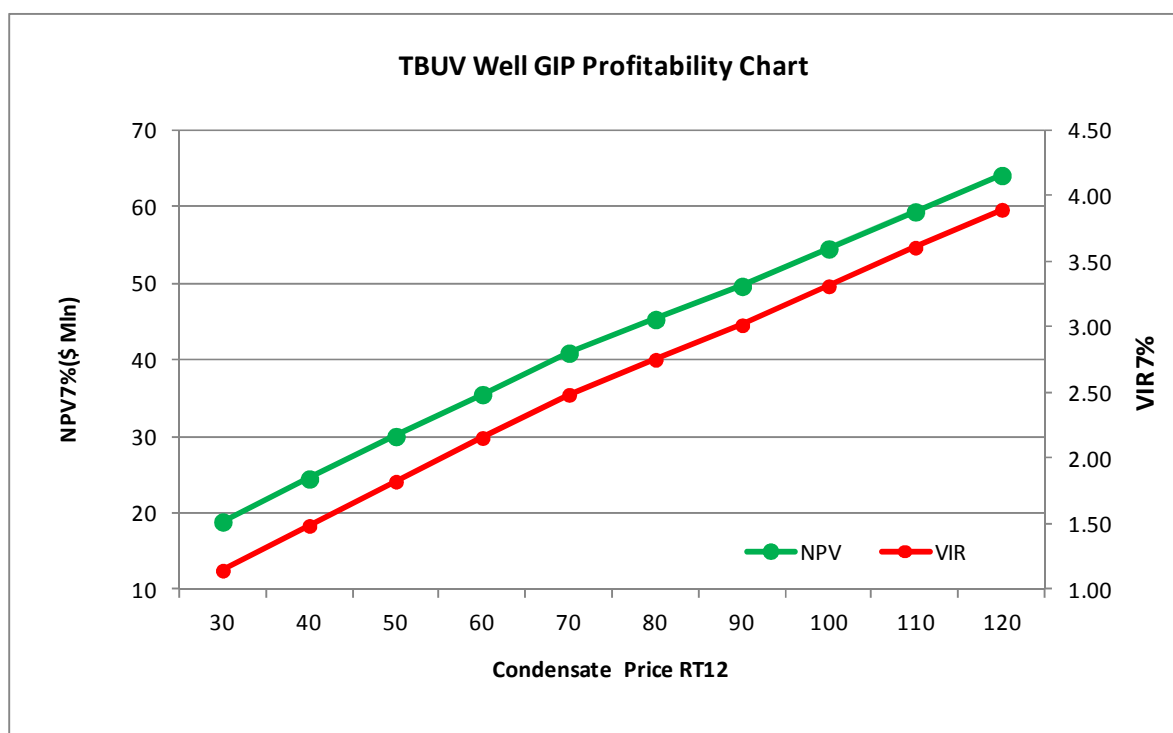
Table 2: Economics summary (Shell Share)

Cash flow forward from: 1/1/2012	NPV (\$/S \$ mln)		VIR	RTEP	UTC (RT \$/boe)		Payout-Time (RT)	Maximum Exposure (RT- AT)
Cash flow forward from: 1/1/2012	0%	7%	7%	%	0%	7%	(yyyy)	\$mln (yyyy)
<b>Base Case</b>								
SV (\$50/bbl & \$1.31/mmbtu RT12)	43.5	30.0	1.82					
RV (\$70/bbl & \$1.74/mmbtu RT12)	58.7	40.9	2.48	>50	1.17	1.52	2013	5.60(2012)
HV (\$90/bbl & \$2.10/mmbtu RT12)	70.9	49.6	3.01					
Oil BEP (RT \$/bbl)		3.4						
<b>Sensitivities (using RV)</b>								
High CAPEX (P90)		40.5	2.12					
High Volumes		55.5	3.37					
Low Volumes		21.0	1.27					
1.5% BVA		40.5	2.40					

Key project parameters (Shell Share)

Parameter	Unit	BP11 Provision	Low	Mid	High	Comments
Capex (MOD)	US\$ mln	NA	14.8	16.6	19.2	MCA + JV
Opex (MOD) Project	US\$ mln	NA	1.16	2.02	2.87	ABC + SCD
Production Volume	mln boe	NA	3.65	8.05	12.29	not a stand alone activity in BP11
Start Up Date	mm/yy	NA		Jan-13		not a stand alone activity in BP11
Production in first 12 months	mln boe			4.1		

Fig-1: Profitability Indicator Chart.



## Economic Assumptions

- Condensate price at the three PSVs: SV, RV and HV (\$50/bbl, \$70/bbl and \$90/bbl respectively) with applicable offsets.
- 2012 NLNG Gas PSV
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive.
- Education Tax of 2% assessable profit
- NDDC levy of 3% total expenditure
- GHV of 1150btu/scf for Export gas
- Abandonment estimated as 10% of total RT CAPEX
- SCD Cost was provided by project team
- ABC opex provided by project team
- Condensate taxed under PPT (PPT tax rate of 85%)

## MCA Assumptions

- Profit gas ceiling of 8% IRR on carried costs
- All costs on the MCA would be recovered through cost Gas and Condensate.
- Current agreement for recovery of carry costs is maintained
- \$70.22/bbl – Condensate at PSV RV-RT in 2012
- OPEX and PMT not carried under current MCA arrangement.

## *Section 3: Risks, opportunities and alternatives*

### Risks and mitigation plan

The key risks and mitigations for the project are discussed in the table below.

<b>Risk</b>	<b>Mitigation plan</b>
Insecurity in the Niger Delta	<ul style="list-style-type: none"><li>• The existing GMoU for Gbaran Ubie node will be used for continuous engagement of the communities. Resolution of any legacy issues will be carried out in line with the new GMOU interface model and SP principles/rules to guarantee Freedom to Operate (FTO).</li><li>• Prior to mobilization for drilling and construction a detailed security plan will be put in place in conjunction with the Area Security Adviser and approved by the head of security.</li><li>• In addition the rig will engage community workers from the catchment area as unskilled labour under the new and operative Project Labour Agreement (PLA).</li></ul>
Delayed EIA approval	<ul style="list-style-type: none"><li>• Commenced EIA approval process, provisional approval obtained from the Federal Ministry of Environment. The EIA report is currently with DPR for review and approval.</li></ul>

Health, Safety & Environment (Hydrocarbon under pressure/ object at height H-06.03/SIMOPS/Ionising Radiation open sources H-17.01/ Land Transportation H-08-01)	<ul style="list-style-type: none"> <li>• Strict compliance with all SPDC &amp; Group HSE policies and procedures and adherence to WHIS. All activities will be planned and delivered under the current drive to achieve 'Goal Zero'.</li> <li>• Well Engineering Management Systems' Controls will be put in place to mitigate identified hazards and their effects. In addition, Permit to Work System and Workplace Hazard Information System (WHIS) will be deployed.</li> <li>• Journey Management System will also be in place to manage driving activities, and will be supported by Defensive Driving Training /Driver Certification and in-vehicle driver performance monitoring.</li> <li>• These controls will be subjected to daily continual supervision to ascertain their adequacy and effectiveness all through the execution phase.</li> </ul>
Production deferment	<ul style="list-style-type: none"> <li>• There is also the risk of delay in flowline, manifold and surface facilities readiness for hook-up and subsequent production. To mitigate this risk, extensive engagement with project engineering and other concerned parties for alignment on deliverables and timelines is ongoing.</li> </ul>
Tax conditions and exemptions	<ul style="list-style-type: none"> <li>• Tax conditions and exemptions applicable to Gbaran Ubie Phase-1 project apply to this development.</li> </ul>

### ***Opportunities***

Production will commence immediately the wells are completed and flowline and other surface facilities are ready. This implies early return on investment and protects the company's interests by keeping the CPF full and ensures no defaults on gas contracts.

### ***Alternative***

Various alternatives were considered. These include

1. Drilling the TBUV-2 well in the same cluster, after the Phase 1 TBUR wells have been drilled and hooked up. This would result in the shut-in of 300Mmscfd for circa 120days.
2. Drill as per current plan i.e. without acceleration. This may imply deferring resource volumes from the well, hence this alternative was not deemed attractive.
3. Choose a different location for TBUV2. This would require land acquisition, 2-season site preparation, location preparation and drilling in 2014

### ***Section 4: Corporate structure, and governance***

This proposal is within the SPDC corporate structure and governance framework.

### ***Section 5: Functional Support and consistency with Group and Business Standards***

This proposal complies with Group Business Principles, policies and standards. Functional support will be obtained from Finance, Technical, Commercial, HSE/SCD and Legal.

## ***Section 6: Project management, monitoring and review***

The optimization study has been technically reviewed and assured by the discipline. The decision to drill, complete and hook-up the well has been approved by the Asset Development and the Gbaran Ubie Project team management.

## ***Section 7: Budget provision***

This investment will be financed with LDL pending the conclusion of Alternative Funding (AF) discussions with the JV partners. It forms part of the Gbaran Ubie Phase 2A (Infill) budget. Assumed funding mechanism is the Modified Carry Agreement (MCA).

## ***Section 8: Group financial reporting impact***

The financial impact of this proposal on Shell Group financial is as outlined in the table below. There are no unusual accounting issues related to this GIP. Expenditure related to the project will be accounted for in line with Group Policy.

US\$ mln	2012	2013	2014	2015	2016	Post 2016
<b>Total Commitment</b>	15.3	1.5				
SCD OPEX	0.2	0.0				
Pre-FID	0.0	0.0				
<b>Cash Flow</b>						
Capital expenditure	15.1	1.4				
Cash Flow from Operations	7.7	6.7	10.1	9.3	8.5	39.7
Cash Surplus/(Deficit)*	-7.4	5.3	10.1	9.3	8.5	39.7
<b>Profit and Loss</b>						
NIBIAT +/-	0.5	5.0	9.8	7.8	7.3	35.0
<b>Balance Sheet</b>						
Average Capital Employed	4.0	7.8	7.5	6.6	5.3	1.7

## ***Section 9: Disclosure***

Disclosures, if required, will be done in line with existing Group and SPDC policies and guidelines.

## ***Section 10: Financing***

This investment will be financed with LDL pending the conclusion of Alternative Funding (AF) discussions with the JV partners. It forms part of the Gbaran Ubie Phase 2A (Infill) budget. Assumed funding mechanism is the Modified Carry Agreement (MCA).

## ***Section 11: Taxation***

Taxation assumptions have been reviewed and no material tax risks have been identified.

## ***Section 12: Key Parameters***

Approval for US\$ 16.78 million SS MOD (US\$8.01mln Equity & US\$8.77mln Carry) to drill, complete, procure and lay flowlines to produce Koroama TBUV-2 well.

### ***Section 13: Signatures***

This Proposal is submitted for approval.

<p>For Business Support:</p> <p>.....</p> <p>Lismot, Bart UIG/T Date ../../...</p>	<p>For Business approval:</p> <p>.....</p> <p>Bos, Bernard FUI/F Date ../../...</p>
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## **GLOSSARY**

AF – Alternative Funding

CPF – Central Processing Facility

DPR – Department of Petroleum Resources

DRB – Decision Review Board

FEED – Front End Engineering Design

GMoU – Global Memorandum of Understanding

HEMP – Hazard & Effects Management Process

HSE – Health, Safety & Environment

HV – High Value

ITD – Inception To Date

IOC – International Oil Companies

LDL – Local Decision Limit

MCA – Modified Carry Agreement

MOD – Money of the Day

MOPO – Matrix of Permitted Operations

NAG – Non Associated Gas

NAPIMS – National Petroleum Investment Management Services

NCDMB – Nigerian Content Development Management Board

NLNG – Nigeria Liquefied Natural Gas Limited

NPV – Net Present Value

PIB – Petroleum Industry Bill

PMT – Project Management Cost

PPT – Petroleum Profit Tax

PSV – Project Screening Value

RFSU – Ready For Start Up

RT – Real Term

RTEP – Real Term Earning Power

RV – Ranking Value

SCD – Sustainable Community Development

STDWS – Short Term Drilling & Workover Sequence

SV – Screening Value

VAT – Value Added Tax

VIR – Value Investment Ratio