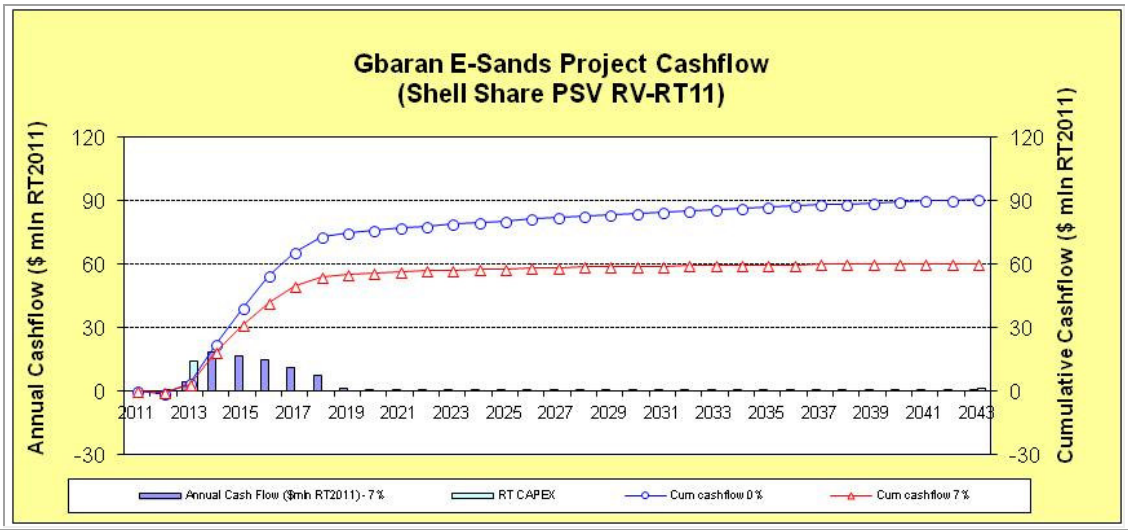
The Shell Petroleum Development Company of Nigeria Limited
Internal Investment Proposal

Summary Information

Directorate	Technical Directorate.
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.
Amount	US$17.49 mln Shell share MOD 50/50, of which US$16.02 mln made up of US$15.71 mln Capex and US$0.31 mln Opex is requested for approval in this proposal. The location cost of US$ 1.44 mln was approved in BP10 budget.
Project	Gbaran E-sands Development.
Main commitments	

Description	Previously Approved (Shell Share)	Requested (Shell Share)	Complete Budget (100% JV)
Location Preparation	1.44	0	4.80
Drilling	0.00	10.88	36.26
Completion	0.00	3.75	12.49
Flowlines and Hook-up	0.00	1.09	3.63
Social Performance (SP)	0.03	0.31	1.14
Total	1.47	16.02	58.32

Source and form of financing	This investment will be financed with SPDC's base budget. Formal JV partners' approval will therefore be obtained.
Summary cash flow	



Summary economics				
	Summary economics (Shell Share)	NPV (USD mln)	RTEP (%)	VIR (%)
	Base case	60.3	>50	4.54
	Low Case	26.7	>50	2.02
	High Case	100.9	>50	7.61

Section 1: The proposal (management summary)

Approval is sought for US$ 16.02 million shell share MOD to drill and complete two development wells in Gbaran field by Q1 2013 and hook-up for immediate production. SPDC committed to supply 80 MMscf/d feed gas to Bayelsa State Independent Power Plant and 20 MMscf/d to other emerging gas markets. To meet this commitment two gas wells Gbaran 11T and 13T were drilled in 2007 and a gas processing facility (EPF) was leased, however the independent power plant (Bayelsa State IPP) is still under construction and will not be ready till Q2 2012. In 2010 when the Gbaran Ubie Central processing facility was ready for start-up 6 months earlier than schedule, the delay in the Bayelsa State IPP readiness, requirement for capacity test and the need to optimize resources necessitated the use of Gbaran 11T and 13T as steady gas source to NLNG.

During the drilling of Gbaran-14 and -15 in 2010 a new hydrocarbon accumulation was confirmed in E1000B reservoir and a clear gas water contact was delineated in E3000B reservoir. These results were incorporated in a Gbaran E-sands reservoir optimization study which recommended the drilling of one oil and one gas well to develop the E1000B oil rim and E3000B NAG reservoirs respectively. The planned gas well (VITO-4) will capitalize on its proximity (ca. 0.5 km) to Gbaran NAG manifold and will now be used as a replacement gas supply source to Bayelsa State IPP and domestic gas market, while the oil well (VITO-5) will utilize the available liquid ullage in the CPF via and is planned to be produced through the Gbaran oil manifold. A total of 54 MMboe will be developed by these two wells.

In synergy with exploration the existing Gbaran VITO location is being extended from three to five slots for the drilling of these two development wells and two Gbaran deep exploration and appraisal wells. Location preparation budget was provided in BP10 for these development wells and construction work is in progress.

The wells are included in 2011 Business Plan (BP11) and will be funded with SPDC's base budget. The 50/50-project cost for this proposal is US$15.71 mln Shell share Capex. The cost schedule is shown in table 1.

Table 1: Project Cost Schedule.

Year	**Location Preparation ($mln – 100%)**	**Drilling ($mln – 100%)**	**Completion ($mln – 100%)**	**Flowlines & hookup ($mln – 100%)**
2011	4.80	-	-	-
2012	-	-	-	2.90
2013	-	36.26	12.49	0.73

Section 2: Value proposition and strategic and financial context

The project fits strategically to the group's behavioral imperative of delivery, speed, commercial mindset and external focus. The development will increase developed reserves by 54 MMboe thereby increasing oil and gas production from Gbaran Ubie node by 4,500 bopd and 100 MMscf/d respectively. There is available ullage in the existing surface facilities hence the wells will come on production immediately after hook up in Q3 2013. In addition gas supply to the Bayelsa IPP aligns with the federal government's aspiration of improving power generation in Nigeria, hence improves Shell's reputation.

2.2 Economics

The base economics for this IP was evaluated on a forward-looking basis using the project 50/50 cost estimate and production forecast. The project returns a base case NPV 7 % of $60.3 mln RT11 (Shell Share). The wells will supply the export oil and domestic gas market.

Sensitivity analysis was carried out to determine the values of the project at low and high reserves and high CAPEX. Additional sensitivity was also evaluated to show the Full life cycle value which includes the previously approved location preparation costs as well as the impact of 1.5% project cost mark-up due to BVA (Benched marked verified and approved) issues. The value of each well i.e. VITO-5 and VITO- 4 were also tested.

Given the uncertainty surrounding the Petroleum Industry Bill, an additional sensitivity on the base case was carried out to determine the impact on the project value.

Table 2: Economics summary

PV Reference Date: 1/7/2011	**NPV (S/S $ mln)**		**VIR**	**RTEP**	**UTC (RT $/bbl or $/mln btu)**		**Payout-Time (RT)**	**Maximum Exposure (S/S $ mln)**
Cash flow forward from: 1/1/2011	**0%**	**7%**	**7%**	**%**	**0%**	**7%**		**AT**
Base Case								
SV ($50/bbl RT11)	64.9	**43.6**	**3.29**	>50%	1.9	2.1		
RV ($70/bbl RT11)	90.6	**60.3**	**4.55**	>50%	1.9	2.1	2013	9.3(2013)
HV ($90/bbl RT11)	110.4	**72.3**	**5.45**	>50%	1.9	2.1		
BEP (RT $/boe)					NA	NA		
Sensitivities (using RV)								
High Capex(P90)		**59.3**	**3.21**				2013	14.7(2013)
Low Reserves (P90)		**26.7**	**2.02**				2014	11.5(2013)
High Reserves (P10)		**100.9**	**7.61**				2013	8.1(2013)
VITO-5		**16.5**	**2.72**				2014	5.3(2013)
VITO - 4		**43.8**	**6.07**				2013	4.0(2013)
Life Cycle*		**60.1**	**4.11**				2013	9.7(2013)
1.5% cost mark- up due to BVA issues		**59.5**	**4.28**					
PIB V.12		**24.9**	**1.88**					

*includes previously approved location preparation costs

Key Project Parameter Data Ranges

(Shell Share)

Parameter	Unit	Bus Plan (BP10)	Low	Mid	High	Comments
CAPEX (MOD)	US$ mln	NA	NA	15.7	21.9	Not in BP10
Investment OPEX (MOD)	US$ mln	NA	NA	4.0	NA	ABC and SCD
Production Volume	mln boe	NA	6.2	15.5	27.3	
Start Up Date	mm/yyyy	NA		2013		
Production in first 12 months	mln boe			2.8		July 2013-June 2014

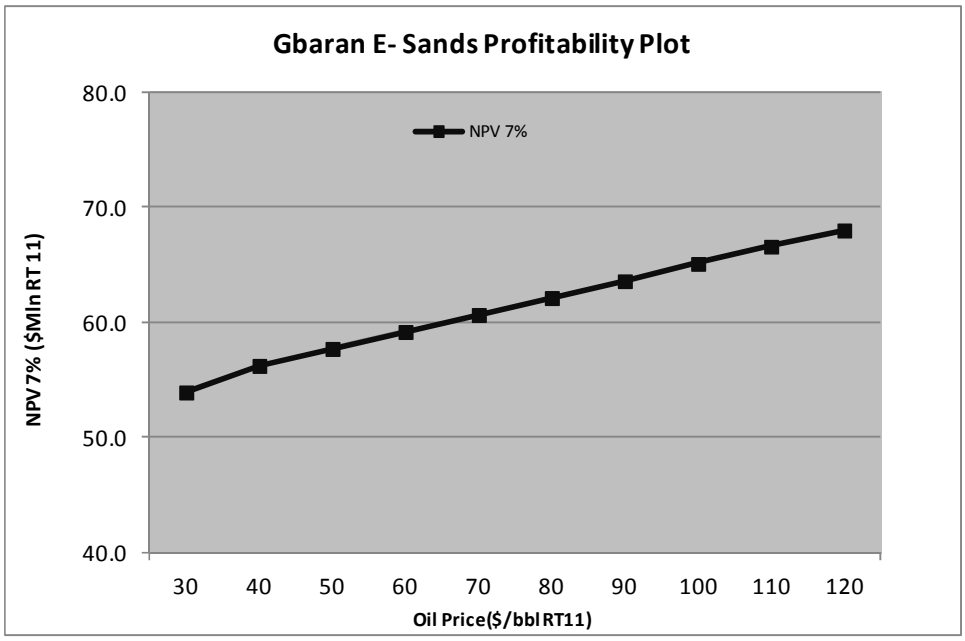


Figure 1: Profitability Plot for Gbaran E-sands

Economic Assumptions

- Oil PSV of $70/bbl RT11
- Domgas PSV based on NGMP was used
- NLNG price of $1.73
- Oil & Condensate taxed at under PPT.
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive
- ABC Opex was used.
- NDDC levy of 3% total expenditure
- Education tax of 2% assessable profit
- 2% of CAPEX assumed as SCD
- 10% of total project RT CAPEX assumed as abandonment cost
- GHV of 1000btu/scf for Domgas & 1150 btu/scf for export gas

PIB assumptions:

- PIB version 12
- Overseas Capex Fraction Assumed at 30%

- Royalty rates based on product (value) prices and production rates per PML (assumed equal to a field)
- Education tax calculated as 2% of its assessable profit
- NDDC levy calculated as 3% of expenditure
- Flaring penalty is calculated at $3.5mln/Btu MOD flat and it is not tax deductible for both CIT and NHT
- 20% of overseas cost is non-deductible for determination of NHT taxable income
- NHT rate is 50% for onshore and shallow water
- CIT is 30% of taxable income and is not deductible from NHT
- No production allowance is applicable since it is an existing field hence

Section 3: Risks, opportunities and alternatives

Risks and mitigation plan

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

Risk	**Mitigation plan**
Insecurity in the Niger Delta	• 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). • 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. • In addition the rig will engage community workers from the catchment area as unskilled labour under the new and operative Project Labour Agreement (PLA).
Delayed EIA approval	• Commenced EIA approval process early, it was initiated in 2010. The EIA report is currently with DPR and Federal Ministry of Environment for review and approval.
Health, Safety & Environment	• Strict compliance with all SPDC & Group HSE policies and procedures and adherence to WIMS. All activities will be planned and delivered under the current drive to achieve **'Goal Zero'**. • Controls will be put in place to mitigate identified hazards and their effects. These controls will be subjected to daily continual supervision to ascertain their adequacy and effectiveness all through the execution phase.
Production deferment	• To mitigate the risk of deferment during the Gbaran deep appraisal drilling, post success of the exploration well, the Koroama bulk line tie-in at CPF will make provision to supply gas to the power plant.
Tax conditions and exemptions	• Tax conditions and exemptions applicable to Gbaran Ubie Phase-1 project apply to this development.

Opportunities
Production will commence immediately the wells are completed as there is spare capacity in the existing surface facilities (NAG, Oil manifold, bulk line and CPF) to accomodate the production. This implies early returns on investment and protects the companys reputation as the gas will be available to the federal government IPP project.

Alternatives
A possible alternative is to sidetrack and deepen Gbaran 14 and 15 respectively, however the end life of these wells is 2026, hence this alternative was not considered attractive. Another alternative is to reduce NLNG supply from Gbaran Ubie CPF by 100 MMscf/d to supply Bayelsa DomGas market by carrying out modification to allow denomination from bulk CPF volumes.

Section 4: Carbon management
There will be no increase in flared gas as a result of production from these wells as the Gbaran Ubie CPF has an Associated Gas gathering (AGG) solution. Also VITO-4 is is a gas well and AG solution is not applicable.

Section 5: Corporate structure, and governance
This proposal is within the SPDC corporate structure and governance framework.

Section 6: Functional Support and consistency with Group and Business Standards
This proposal complies with Group Business Principles, policies and standards. Regional functional support was obtained (Finance, Technical, commercial, HSE/SP and Legal).

Section 7: Project management, monitoring and review
The optimisation study has been technically reviewed and assured by the discipline. The decision to drill, complete and hook-up these wells has been approved by the Asset Development and the Gbaran Ubie Project team management.

Section 8: Budget provision
Budget provision for this project will be made in BP11 base plan and JV programme.

Section 9: Group financial reporting impact
The financial impact of this proposal on Shell Group financial is as outlined in the table below:

US$ Million	2011	2012	2013	2014	2015	Post 2015
Total Commitment	**0.59**	**1.76**	**15.14**			
Cash Flow						
SCD Expenditure	0.01	0.03	0.30			
Capital Expenditure	0.58	1.73	14.84			
Operating Expenditure	0.02	0.06	1.09	2.17	1.86	10.40
Cash flow From Operations	0.24	0.54	13.27	20.94	19.03	67.68
Cash Surplus/(Deficit)	(0.33)	(1.20)	(1.57)	20.94	19.03	67.68
Profit and Loss						
NIBIAT +/-	0.02	0.04	9.62	19.12	17.40	62.01
Balance Sheet						
Avg Capital Employed	0.17	0.97	7.18	11.87	10.15	3.92

Section 10: Disclosure
Disclosures, if required, will be done in line with existing Group and SPDC policies and guidelines.

Section 11: Financing
This investment will be financed with JV funding and Shell share of the expenditure will be funded by SPDC's cash flow.

Section 12: Taxation
The PIB is before the National Assembly. If enacted as drafted, it would have an impact on the upstream project's economics as indicated in the economics grid. There are still sizeable gaps in the Bill's definition of the proposed regime, for which assumptions have had to be made. Economics sensitivities were based on PIB V12 and was also ran on a stand-alone basis.

Section 13: Key Parameters
Approval for US$ 16.02 mln (50/50 MOD, Shell share), to drill, complete, procure and lay flowlines to produce Gbaran VITO-4 and VITO-5 wells. The wells will commence production immediately post completion in 2013.

Section 14: Signatures
This Proposal is submitted to UIG, VP Technical for approval.

Supported by:	For Business approval:
..... Bernard, Bos FUI/F	..... Lismont, Bart UIG/T

Initiated by:
..... Erivona, Gloria UIG/T/DSLE