Group Proposal to Commence Negotiations (PCN)

Gas Sale and Purchase Agreement for Bonga & EA Gas Supply to GigaGas.

Summary information

Business unit or company	The Shell Petroleum Development Company of Nigeria Limited (SPDC).
Group equity interest	100% in SPDC; 30% in SPDC Joint Venture (SPDC-JV)
Business or Function	Upstream International, Operated – Nigeria, Gas
Related parties	SPDC-JV Partners: Nigerian National Petroleum Corporation – NNPC (55%), Total E&P Nigeria – TEPNG (10%), Nigerian Agip Oil Company Limited – NAOC (5%). OML 118 (Bonga) Co-venturers: Shell Nigeria Exploration and Production Company – SNEPCo (55%), Esso Exploration and Production (Deepwater) Ltd – Exxon (20%), Total E&P Nigeria Ltd – Total (12.5%) and Nigerian Agip Exploration Ltd – ENI (12.5%) under a Production Sharing Contract with NNPC.
Potential third parties	Buyer: GigaGas Limited (GigaGas) Transporter(s): Nigerian Gas Company Limited (NGC) and Nigerian Petroleum Development Company Limited (NPDC).
Project	Description ▪ Negotiation of the 5-year Gas Sale and Purchase Agreement (GSPA) to enable the diversion and sale of Bonga and EA Associated Gas (AG) currently being sold to NLNG to GigaGas for onward sale the national domestic gas (DG) market. Headline Size: ▪ $135.56 million Shell share MOD revenue for unprocessed gas sale 5-year (2017 – 2021) GSPA at FGN-advised gas price of $2.30/Mscf.
Project objectives and expected deliverables	Project Objectives: ▪ **Earn LTO/Reputation:** Support FGN measures to address shortfall in gas to domestic power supply. Cooperating with FGN and delivering this project will yield positive reputational impact for SPDC JV and may enhance current efforts to resolve and settle the PSC AG title issues for Bonga and other DW PSCs. ▪ **Ensure Bonga Production Continuity:** Enable sale of diverted Bonga/EA gas to the DG market and ensure flexibility such that gas can be sold through SPDC JV Gas Sale Agreement (GSA) to NLNG as backup, in case of disruptions in the DG market, thus ensuring continuity in Bonga oil production. ▪ **Achieve Commercial Delivery:** Agree a commercial framework that protects gas sales value against credit risk and counterparty risks, premised on existing commercial structure for sale to NLNG and establish a physical route to the domestic market for other offshore gas (long term enabler). Deliverables: ▪ 5-year GSPA between SPDC-JV parties (*the Seller*) and GigaGas (*the Buyer*) for sale of approximately 108 MMscfd (average rate) unprocessed AG from Bonga and EA fields, for onward sale of processed dry gas, by GigaGas to DG (Omotosho NIPP). ▪ Associated Tie-in and Proximity Agreements with GigaGas and NPDC. ▪ Associated Gas Transportation Agreements (GTA) with NGC and NPDC.
Timescales & Milestones	Oct '14 – Oct '15: Kick-off; scoping of project commercial and technical framework*. Aug '15 – Feb '16: Internal mandate (PCN); negotiation and execution of Term Sheet. Mar '16: Commence negotiation of GSPA, Tie-in Agreements and GTA.

Jun '16: Group Investment Proposal (GIP).
Jun '16 – Sep '16: Execute the GSPA, Tie-in Agreements and GTA
(*Received NNPC consent of commercial construct in draft Term Sheet in October 2015.)

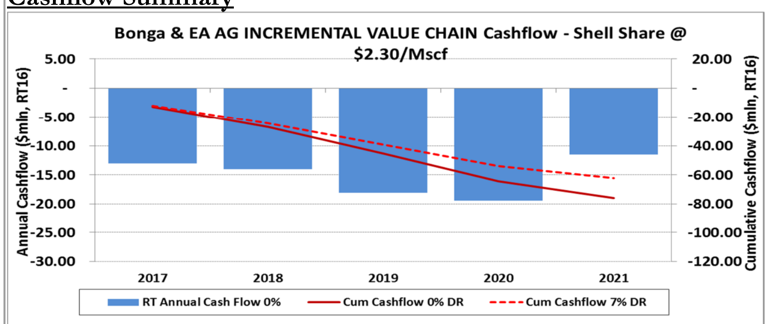
Summary economics/ cashflow

Economics evaluation was performed to determine the integrated (Upstream + Midstream) value of selling unprocessed AG from Bonga and EA to Gigagas. The evaluation is based on the current proposed commercial structure which assumes that unprocessed gas is sold to Gigagas via a 5-year GSPA (instead of current sales to NLNG), at the government advised gas price of $2.30/Mmbtu (OML118 part of the revenues from the gas sale are currently "held" by the SPDC JV IOC partners (NNPC's share of the revenue goes to the Federation Account) pending resolution of AG terms on DW PSCs). This price has been assumed as MOD flat, and applied as the base case.

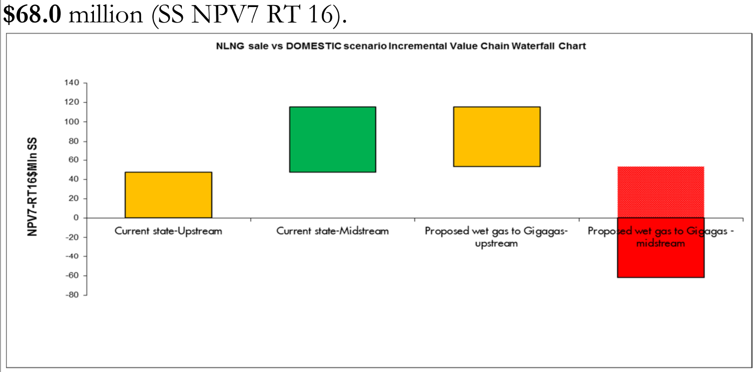
The incremental value chain Shell Share NPV7 RT2016 for this alternative gas supply destination (base case) is negative (-$62.18mln), as shown in the table below. This reflects the total loss in midstream value. Upstream economics evaluation is based on Tax Royalty fiscal regime for the associated gas. Further details and sensitivities on the standalone GSPA evaluations are provided in Appendix 1.

PV Reference Date : 1/7/2016	INCREMENTAL VALUE CHAIN NPV (S/S $ mln USD)	
Cashflow forward from: 01/01/2016	0%	7%
Base Case		
SV (NGMP Price Profile)	**-42.90**	**-35.89**
RV ($2.30/Mmbtu , MOD)	**-76.03**	**-62.18**
HV (NGMP Price Profile)	**-83.28**	**-66.76**

Cashflow Summary



The waterfall chart below shows NLNG value loss to Shell as a result of this gas diversion. The value loss, as these NLNG volumes cannot be replaced until 2021, is up to **$68.0** million (SS NPV7 RT 16).



Detailed Information

Section 1: The proposal (management summary)

Mandate is hereby sought to commence negotiations with GigaGas under a GSPA for sale of ca. 108 MMscfd unprocessed volumes[1] of Bonga/EA AG for onward sale by GigaGas to identified power plants along the Escravos-Lagos Pipeline System (ELPS) at FGN-approved[2] gas sale price of $2.30/Mscf. Given the unique aspects of this sale (AG supply sources), the commercial structure will be based on a depletion-contract type structure.

A key aspect of this proposal is the retention of the same commercial structure (*see details below*) as existed hitherto for the supply of Bonga/EA AG to NLNG. Key risks relate to Reputation and Counterparty Risks (*Payment Receivable Risk*, *Interface and Deliverability*) potentially arising from the involvement of GigaGas. No incremental investment is envisaged for this gas supply as no modifications are required at EA Riser Platform-A (RPA) (the investments required for the processing plant, pipelines, valves and meters will largely be undertaken by GigaGas and NPDC). However, there is the possibility that this project may have some impact on other SCiN projects/activities, potentially resulting in extra costs or scope changes for both this project and other SCiN projects (*see details below*).

Background

Following a commitment reached between Shell ECAB and the former President of Nigeria in Q2 2014 to divert Bonga AG to the domestic market, the former Honourable Minister of Petroleum Resources (MoPR) directed SPDC JV to enable this in cooperation with GigaGas. GigaGas is a local entity appointed by the MoPR to build, own and operate a processing facility and the related infrastructure (pipelines, fiscal metering and tie-ins) to collect Bonga AG and deliver processed gas to power plants along the ELPS.

Project Technical Scope

The unprocessed gas will be delivered to GigaGas at the entry of its facilities. The processed gas will then be transported through SPDC JV and NPDC owned pipelines respectively downstream of the GigaGas processing facilities, for onward transport to the NGC-owned ELPS that connects the power stations. GigaGas will be responsible for the handling and evacuation of the NGLs resulting from processing of the gas. GigaGas will retain the liquefied petroleum gas components (LPGs) to amortise additional investments (beyond its initial cost estimates) in the project and will deliver the condensate to SPDC facilities. To facilitate this, current project scope also includes a liquid return line to SPDC JV Northbank flowstation. GigaGas indicates that the cost of their work scope amounts to some US$45mln (initially estimated at US$30.82mln). Project delivery and operability are uncertain as GigaGas has no track record in the oil and gas industry (although the Presidential approval in respect of Gigagas' appointment indicates that their USA technical partner, Newpoint LLC, has some track record processing wet gas from Oben to dry gas for delivery to Sapele NIPP). Project delivery also depends on the completion of a 24" by 5km pipeline from Odidi to the ELPS being constructed by NPDC[3]. In the event of any delays in project delivery, the existing arrangements whereby the gas is sold to NLNG will continue.

Bonga AG (commingled with EA AG) is currently delivered at SPDC's EA RPA where it enters into the Eastern leg of the Offshore Gas Gathering System (OGGS) to NLNG. Diversion of this commingled stream to the Western part of OGGS (currently unused) can be accommodated with the current set-up of EA facilities. To mitigate the risk of potential Bonga production loss due to gas offtake disruption, OGGS will remain fully pressurized to enable gas flow to revert back to NLNG whenever GigaGas plant

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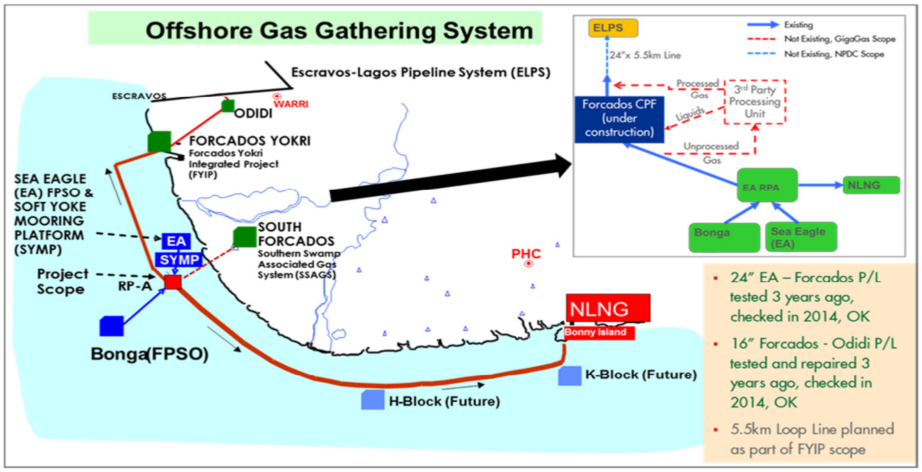
[1] The processing of the gas will be undertaken by GigaGas, a 3rd party appointed by FGN for this purpose, under a Gas Processing Agreement (GPA) between the respective offtaker(s) and GigaGas Limited.

[2] FGN approved gas price of $2.30/Mscf, processing price of $0.30/Mscf and transportation tariff of $0.50/Mscf for the diversion of Bonga gas to the ELPS. Recent directive by the former HMoPR, on new industry prices for gas to power of gas price of $2.50/Mscf (for processed gas), and transportation tariff of $0.80/Mscf may be applicable on receipt of formal communication by FGN

[3] This line (to be completed by Q4 2016) is the proposed replacement line for the old 24" by 5km Odidi to ELPS line which was vandalized. In parallel, there is a proposed 18" by 5.5km Odidi to ELPS line to be constructed by SPDC (with estimated completion date of Q3/Q4 2016) as part of the FY project. The 16" by 26km Forcados to Odidi line, which is yet to be commissioned, was tested and put under pressure in 2013.

or DG sink is unavailable. It is anticipated that this proposed operating philosophy will not adversely impact the integrity of the line and discussions are ongoing with NLNG and SNEPCo to carry out intelligent pigging activities (to be completed by Q1 2016) to assess the current integrity of the OGGS. SPDC JV's scope in this project is limited to interface management with GigaGas and ensuring integrity and availability of related SPDC JV facilities, as well as supporting the project with capability to minimise risks (arising from Gigagas' limited industry experience).



The diversion of Bonga/EA AG to the ELPS will potentially impact other SPDC JV/SNEPCo projects (including another post-FID SCiN project SSAGS+) as outlined below. It is envisaged that, such impact, not initially anticipated or planned for by these projects, will be assessed separately by each project and as part of the ongoing urban planning study for the projects in this area. In addition, there are ongoing engagements with key stakeholders (NNPC, SPDC JV Partners) towards resolution of this issue.

Issue	Description
Southern Swamp Associated Gas Solution (SSAGS+) Project	SSAGS+ project was planned to deliver ELPS quality gas into the EA RPA and the FY-ELPS Pipeline network. The decision to re-route non hydrocarbon dew pointed AG from Bonga/EA to Forcados means that SSAGS+ can no longer export dry gas (ELPS quality) through the OGGS. SSAGS+ is further impacted to the extent that the system can only export Bonga and EA AG at the current operating pressure of GigaGas plant. A number of alternatives exist including but not limited to: 1) running the export compression system in series but with a reduced quantity of gas that can be exported by the SSAGS project, 2) installing a new hydrocarbon dry gas export pipeline system (Tunu - ELPS). Review of the options for evacuation of SSAGS+ gas and gas from future projects in that area is part of the urban plan/study of projects that deliver gas to ELPS that has been kicked off by the conceptual engineering team. In parallel, discussions have been initiated with GigaGas to modify its plant inlet and export pressure to facilitate export of the entire SSAGS+ production. This will require GigaGas to install compressors downstream of their current process, and will require commingling of processed SSAGS+ gas with unprocessed Bonga/EA AG.
Bonny Terminal Fuel Gas Supply:	Field gas for the Bonny Terminal is currently supplied from the Bonny fuel gas plant which is the primary supply source while OGGS (Bonga and EA AG) and Total's Amenam field provide the back-up. Diversion of the Bonga/EA AG to ELPS will result in gas from these fields only being partially available as back-up. However, gas from Total's Amenam field will still be available and adequate backup.
Bonga SW Gas Supply:	The diversion of Bonga/EA AG to the ELPS (DG market) makes it likely that Bonga SW gas will also be directed to the ELPS, although a dedicated gas pipeline is planned to be installed between the BSW FPSO and EA RPA to address the capacity constraints resulting from the diversion of Bonga AG to the DG market. This would adversely impact gas supply to NLNG.

Given that Bonga/EA AG will be delivered to the GigaGas facilities as a commingled stream, gas quantities will be measured to fiscal standard and SPDC JV will reconcile measured volumes and allocate accordingly to SPDC JV and OML118 respectively (as currently being done for gas sale to NLNG).

The project is expected to be delivered in Q4 2016 (SPDC JV's latest estimates). The entire project is being coordinated by NNPC. The gas production forecasts for Bonga and EA (OP '14) are shown below.

AG FORECAST (MMSCF/D)	2017	2018	2019	2020	2021	2022	2023	2024
BONGA	125.9	109.5	115.7	104.1	75.8	60.8	53.8	52.2
EA	7.3	7.2	7.9	8.1	7.3	5.4	4.7	3.4
EA FOD	0.3	0.8	10.7	16.5	15.9	10.1	8.9	5.7
NLNG REQUIREMENT	15	15	15	15	15	15	15	15
BONGA TO GIGAGAS	110.9	94.5	100.7	89.1	60.8	45.8	38.8	37.2
EA TO GIGAGAS	7.3	7.2	7.9	8.1	7.3	5.4	4.7	3.4
BONGA/EA TO GIGAGAS *	118.2	101.7	108.6	97.2	68.1	51.2	43.6	40.6
BONGA TO GIGAGAS	110.92	94.47	100.67	89.12	60.77	45.77	38.82	37.17
EA TO GIGAGAS	7.3	7.2	7.9	8.1	7.3	5.4	4.7	3.4
EA FOD TO GIGAGAS	0.3	0.8	10.7	16.5	15.9	10.1	8.9	5.7
BONGA/EA/EA FOD TO GIGAGAS	118.5	102.5	119.2	113.8	83.9	61.3	52.5	46.3

The condensate production forecasts for Bonga and EA, based on simulations of the process are shown below:

Est. Condensate Vol (Bpd)	2017	2018	2019	2020	2021	2022	2023	2024
BONGA	945.20	805.02	857.85	759.43	517.85	390.03	330.80	316.74
EA	64.76	68.17	158.50	209.63	197.70	132.08	115.89	77.55
Total	1009.96	873.19	1016.35	969.06	715.54	522.11	446.69	394.29

Commercial Structure

Diversion of Bonga/EA AG to the ELPS will be underpinned by a similar structure as currently exists for ongoing sale to NLNG (that is, premised on the principle of deemed sale from OML 118 to SPDC JV) to enable SPDC JV enter into a sale transaction with GigaGas to facilitate onward sale to the allocated DG customers. To ensure continuity of Bonga production, a key deliverable is to ensure flexibility by retaining SPDC JV as the seller of Bonga AG, as conveyed by letter between OML 118 (NNPC/contractor parties) and SPDC JV in 2005 (for sale to NLNG). This proposal represents a change to the destination of Bonga AG. Pending the execution of a GSA between OML 118 co-venturers, NNPC and SPDC JV, a similar approval (to the 2005 letter) will be required to allow for sale of Bonga AG to the DG market to address the risk to the gas sale arising from SPDC JV not having title to the gas. Proceeds from OML118 gas sold, are currently "held" by the SPDC JV IOC partners (NNPC's share of the revenue goes to the Federation Account) until agreement is reached with NNPC on the AG terms for DW PSCs[4]. Revenues from sale to Gigagas will also be "held", as is done for NLNG sales, pending the resolution of the DW PSCs AG terms. Similar to the sale of unprocessed gas to NLNG, title to the NGLs will belong to GigaGas (as Buyer of the gas). The opportunity for SPDC JV to be assigned Domestic Supply Obligation (DSO) credit for the volumes supplied will be pursued, to the extent possible. Advocacy by SPDC towards SPDC JV receiving the DSO credit for this sale (premised on the fact that SPDC JV is enabling and facilitating delivery of the gas to the DG market) is currently ongoing. However, there may be some pushback from NNPC which has assigned DSO for its PSCs.

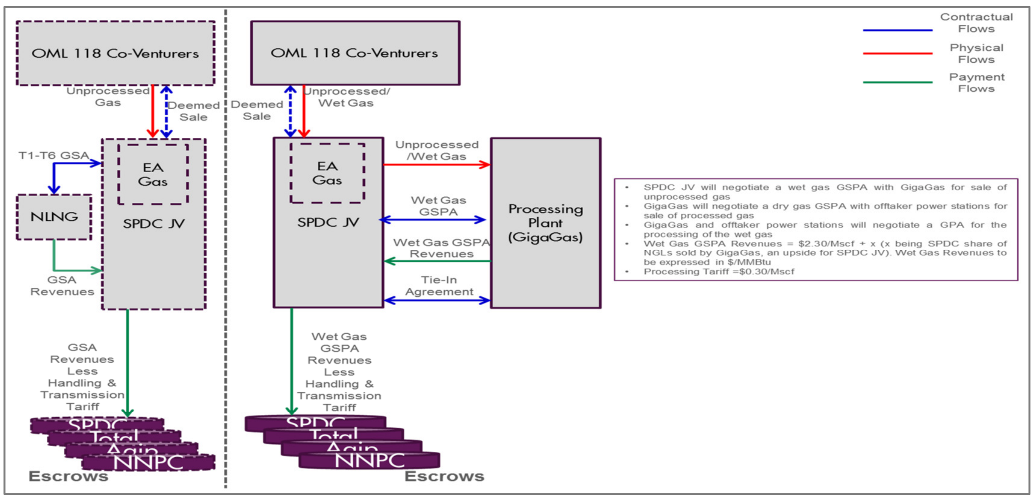
The proposed structure, and requested mandate is therefore that SPDC JV sells the available volumes from Bonga/EA AG (average of 108 MMscf/d) unprocessed gas to GigaGas at the entry of its facilities,

[4] Resolution of PSC terms and the proposed negotiation of the GSA (OML 118 co-venturers, NNPC and SPDC JV) are being pursued as separate workstreams (led by the SNEPCo Commercial team), and is not a CP for this project.

subject to the terms of the GSPA. Onward sale of processed gas to the offtakers (i.e. the GenCos) will be underpinned by another GSPA (and a GPA) between GigaGas and the respective GenCos.

Contract will be depletion-type given that gas supply is from a specific field (Bonga) and, being AG, dependent on oil production. Quantities will therefore be based on the actual gas supply profile of Bonga (and EA) AG. This allows SPDC JV flexibility with respect to any contract quantity obligations.

The contract duration is 5 years in line with FGN's approval to GigaGas. The gas sale price of \$2.30/Mscf and processing tariff of \$0.30/Mscf (to GigaGas) is set by FGN. It has been agreed that SPDC JV will share in the NGLs: the condensates will be returned to SPDC JV while GigaGas will retain LPGs. This represents additional upside for SPDC. SPDC JV through its ownership of the FY-Odidi line will also potentially earn additional revenue as one of the transporters for the processed gas from GigaGas facilities to the offtaker power stations.



A GTA is envisaged between NGC and each offtaker. Under this arrangement, NGC will be the network operator and "super transporter" while SPDC JV and NPDC will be minor transporters (through a separate GTA with NGC). The transportation tariff payable by offtakers is set by FGN at \$0.50/Mscf and will cover transportation of the gas by NGC (for use of the ELPS- power plant section), NPDC (for use of the Odidi – ELPS section) and SPDC JV (for use of the FY-Odidi pipeline section). A transportation workgroup has been proposed to agree the basis for allocation of the transportation tariff among all the transporters. From past experience, SPDC runs a likely credit risk on tariff payments receivable from NGC; however this has negligible impact on the value of the proposal.

Section 2: Value Proposition and Strategic Fit

This is an LTO project through which SNEPCo and SPDC JV co-operate to assist FGN in addressing persistent power shortage in Nigeria. Key elements of the value proposition include:

- Demonstrated support by SPDC JV, in co-operating fully with FGN and facilitating this project enhances SCiN reputation and demonstrates commitment to support FGN's Power and DG Agenda.
- Flexibility to reverse flow to NLNG when there is offtake disruption in the domestic market will facilitate the protection of Bonga oil production.
- Given current infrastructure limitations, the successful execution of this project may provide a blueprint for similar models of unprocessed gas sale to be implemented across the country, with the attendant positive impact.

It is intended that the project will be executed without major investment by either SNEPCo or SPDC JV, apart from the project manpower costs to engineering and project support.

The economics evaluation was performed to determine the integrated (Upstream + Midstream) value of selling unprocessed Associated Gas from Bonga and EA to Gigagas and is based on CITA+AGFA fiscal regime for the associated gas. Given indications that the volumes diverted from NLNG gas supplies cannot be replaced until 2021, Shell will therefore lose up to $68million (SS NPV7 RT 16) in midstream value (i.e. value attributable to Shell's shareholding in NLNG). Further details and sensitivities are provided in Appendix 1.

Furthermore, due to the requirement to 'hold' the sales proceeds until resolution of gas terms, the cash received is effectively trapped with no economic rent. Therefore effectively no value from sale of gas accrues to SPDC.

Section 3: Risks, Opportunities & Alternatives

Risks: The following risks are assessed in relation to the execution of the GSPA (and other agreements), and the interfaces required, with GigaGas, to facilitate delivery of the gas for processing and onward sale.

- ***Reputation***: Given FGN's focus on achieving its power agenda and SPDC's support for this project, any delay in execution or perception that SPDC JV is not cooperating in delivering the project will be negatively viewed with adverse reputational impact for SPDC JV. In addition, this might result in SPDC JV being forced to supply the gas under sub-optimal contractual terms.
  Mitigation: In view of FGN high expectations, inexperience of GigaGas and the aggressive timeline, SPDC is proactively participating in project activities, to facilitate the success of the project. SPDC is also proactively engaging stakeholders within FGN and NNPC to manage perceptions and expectations with respect to delivery of the project. Moreover SPDC will be pro-active on the commercial framework and proposing alternative interim solution for fiscal metering. SPDC will ensure that gas supply is underpinned by an executed GSPA. SPDC has had high-level engagements with GigaGas (including holding regular management meetings to monitor project status and resolve issues) and NNPC to facilitate the successful completion of the project.
- ***Counterparty Risks:***
  1. ***Payment/Receivable Risk:*** Credit performance by GigaGas is uncertain as it is a relatively new company with no track record in the industry, resulting in a payment risk from GigaGas. In addition, any payment default by the offtaker power stations may result in default by GigaGas. While the GSPA allows SPDC to terminate for non-payment, the ability to exercise termination rights in this instance may be curtailed by government intervention and political pressure as this is ultimately gas to power (a critical FGN sector).
     Mitigation: Effectiveness of the GSPA will be premised on a provision of a letter of credit (LC) in a form acceptable to the Sellers and in an amount that is sufficient to cover the Sellers' entire exposure. Furthermore, the terms of the GSPA will allow SPDC adequate time to terminate the contract and divert supply (to NLNG) albeit termination will not be an easy option as noted above. Finally, the payment terms in the GSPA will be de-linked from the payment terms by the offtakers to ensure that payments from GigaGas are not premised on receipt of payments from the offtakers (the current practice on existing legacy DG supplies).
  2. ***Interface Risks***: Given the required tie-in of GigaGas facilities to SPDC JV facilities, the risk exists that there may be interface issues that may impact aspects of SPDC JV's operations, including HSSE risks. In addition, the risk exists that SPDC JV operations may be disrupted due to GigaGas downtime or facility upsets.
     Mitigation The tie-in and proximity agreements include provisions to ensure that GigaGas operations adhere to SPDC and industry standards (including requiring GigaGas to carry out a HAZOP review of its facilities). SPDC is also proactively communicating Shell standards to GigaGas to facilitate timely adherence (this will need to be properly managed as demanding compliance may be seen as slowing things down). The scope of tie-in works and who does what will be clearly stated and agreed with GigaGas. To reduce the impact on facility operational upsets, the technical set-up will be managed to ensure reduced dependencies between SPDC JV facilities and GigaGas facilities, and flexibility of gas supply flow to minimise potential impact of GigaGas plant offsets and availability on Bonga and EA.
  3. ***Deliverability (Delay/Failure in Delivering the Project):*** The critical path of the project delivery is under the purview of GigaGas with risk of delay/failure in delivery (timelines have

already shifted from the initially advised delivery date of Q4 2014 to the latest estimates of Q2 2016 – Q4 2016). GigaGas does not have demonstrated experience in providing such services in Nigeria. The technical capability of GigaGas is also not fully known. GigaGas may lack the capacity to deliver as promised with negative ripple effect on SPDC.

Mitigation: SPDC involvement on the critical path will be reduced or removed and clarity on ownership of deliverables will be established and properly communicated to ensure SPDC is not unduly blamed for any project failure/delays. Adequate risk responses for any exposure areas identified will also be put in place.

4. ***IDD:*** GigaGas does not have industry experience, although they have partners with industry experience. In recent developments, GigaGas' Vice-Chairman and Chairman have been appointed as Chief of Staff to the President, and Permanent Secretary in the Ministry of Power, respectively.

   Mitigation: In line with SPDC minimum requirement to enter into contract with GigaGas, an integrity due diligence (IDD) on GigaGas has been completed. Identified red flags have been cleared, and on the basis of a positive outcome from the second level due diligence carried out, support has been duly obtained to engage with GigaGas (NAOC are also conducting a separate due diligence exercise - which is useful in providing additional assurances). The recent FGN appointments of GigaGas' key officers was referred to the compliance team/ ABC SME for advice and support has been received to continue the engagement with GigaGas.

- ***Capacity Constraints:*** The diversion of Bonga Gas to the DG market would impose constraints on SPDC JV western domestic gas supply network, significantly reducing the network evacuation capacity to about 185MMscf/d, at the current operating pressure of GigaGas plant. Consequently, SPDC JV's Southern Swamp and FY projects originally planned for evacuation through the Forcados to ELPS system will no longer have enough pipeline capacity to access the DG market.

  Mitigation: SPDC is currently exploring options, including possible contracting of additional third party gas processors to expand the network capacity. In addition, discussions have been initiated with GigaGas to modify its plant pressures (through installation of compressors) to facilitate export of the entire SSAGS production.

- ***Partner Misalignment:*** Given the pending issues on title to AG in DW PSCs (including Bonga AG), it is possible that SPDC preferred positions, may not be aligned with the respective positions of SPDC JV partners, NNPC or OML 118 co-venturers.

  Mitigation: Timely engagement of partners is a critical activity on the project roadmap. SPDC has commenced engagement with SPDC JV partners to ensure early alignment. In addition, SPDC JV partners will fully participate in the negotiations as part of the SPDC JV team. SPDC is also proactively supporting SNEPCo Commercial team on engagements with OML 118 co-venturers (in particular, ExxonMobil) to facilitate alignment as required. Alignment has been enhanced by ensuring that engagements highlight the fact that the diversion of the gas is an FGN directive. Engagement with NNPC at senior levels is also ongoing to facilitate alignment with NNPC.

- ***Potential Loss of MidstreamValue to SCiN:*** In the absence of ready replacement volumes to NLNG, the commercial impact to SCiN of re-routing Bonga/EA AG to the domestic market represents a potential value loss of approximately $68million (Shell share), taking into account the midstream revenue loss at NLNG.

  Mitigation: This risk cannot be mitigated, in the absence of replacement volumes (from current indications, the volumes cannot be replaced until 2021). However, as part of the ongoing NLNG gas supply optimisation, efforts are being made to identify additional gas sources that will replace the diverted Bonga/EA AG. If successful, replacement of these volumes to NLNG (alongside supply of Bonga and EA AG to the DG market) will consequently yield additional value for SCiN from monetisation of additional gas volumes.

- ***Potential Loss of Liquids Value (Bonga+ projects):*** Under the commercial structure proposed, title for the NGLs rests with GigaGas. This may potentially set a wrong precedent and negatively impact value realised by SPDC JV from future projects (Bonga SW etc.) where the volume and associated value of the NGLs, may far outweigh the associated performance risk.

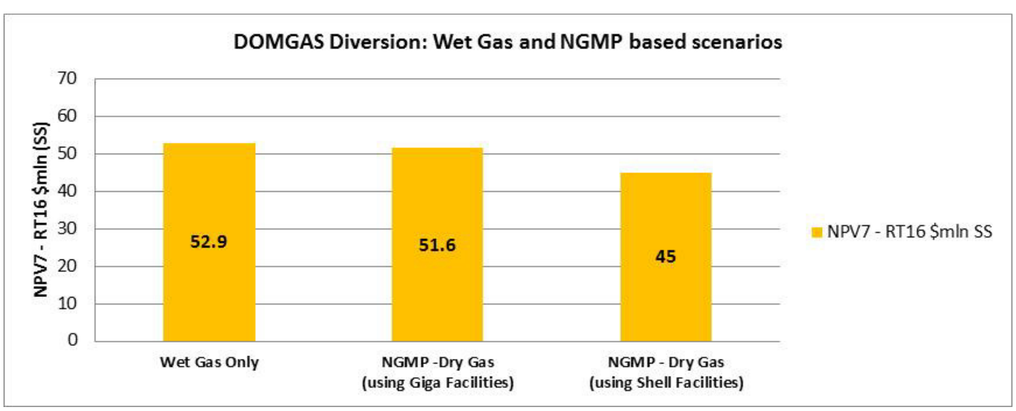
  Mitigation: It has been agreed that SPDC JV share in the NGLs (with SPDC JV receiving the Condensates while GigaGas retains the LPGs). SPDC will ensure that this structure (title to NGLs residing with the buyer) is restricted to this particular project and that future similar projects will be based on alternative commercial terms. Technically, options around processing the gas at the facility to extract the NGLs prior to sale and transfer to the buyer/offtakers will be considered and deployed as necessary in the development design of the relevant projects (not applicable to Bonga SW given the stage of the project) to mitigate potential loss.

- ***Metering***: The correct specification of custody transfer meters may not be deployed on time by GigaGas resulting in inaccurate measurement of gas/liquids delivered and incorrect revenue accounting as well as disputes among parties.
  Mitigation: SPDC will ensure proper documentation and definition of the fiscal metering specifications and share these with GigaGas to properly guide them. In addition, SPDC is working with GigaGas to ensure appropriate approvals have been obtained from DPR and the meters duly certified as acceptable. This will facilitate proper installation and operation of the meters as well as ensure the meters are properly located to support accurate measurement of the gas flow in dense phase. Furthermore, SPDC intends to ensure that the metering protocol will include regular joint reading of the meters by both parties, and SPDC access to the meters. SPDC will also ensure proper engagement with DPR to agree interim measures for metering if GigaGas is unable to deliver the required fiscal meters at project on-stream date.

Opportunities / Alternatives Considered: Successful delivery of this project will underpin the Shell group's commitment to Nigeria. To do nothing will be seen as Shell's unwillingness to support FGN's aspirations, and poses the risk of punitive action and negative impact on Shell's reputation given FGN DG and power aspirations and the political nature of the stakeholders involved.

Given that Bonga/EA AG is to be diverted to the DG market under this project, the alternative structure of a processed gas sale directly to the offtaker power stations, in line with NGMP, was considered. Under NGMP, the sellers (SPDC JV parties) deliver processed gas to the DG buyer/offtaker directly under the terms of a Gas Sales Aggregation Agreement (GSAA). GSAA signatories are the sellers, buyer(s) and the Gas Aggregation Company of Nigeria (GACN), which coordinates the aggregate price received by sellers. Under this structure, SPDC JV parties as sellers would have title to the NGLs. The sellers would be responsible for on-specification gas delivery to the buyer, and would execute a separate Gas Processing Agreement (GPA) with the Gas Processor (GigaGas) and pay the processing tariff. Though the NGMP based structure was considered, the proposed structure was chosen for the following reasons:

- The proposed structure avoids the performance risk (associated with GigaGas as processor) under a processed gas sale where SPDC JV would be responsible for the delivery of on-specification gas.
- The proposed structure prevents SPDC JV from downstream exposure to NGC and managing multiple DG offtakers.
- In addition, the proposed structure has a SS NPV7 RT16 of $52.9 million which compares favourably with the NGMP structure considered as the value from condensate is not sufficient to cover the incremental costs for SPDC-JV associated with the NGMP structures. See chart below which provides a detailed comparison between these alternatives and the proposed structure of unprocessed gas sale to GigaGas.



Section 4: Negotiation Strategy

- The negotiation strategy is based on co-creating value with the counter-parties. The team will draw on existing relationships with key external stakeholders to bring alignment and influence outcome.
- GigaGas may seek an outcome that provides performance guarantees to back its commitments to the offtaker power stations. The team will ensure that whatever terms are negotiated are consistent with Bonga and EA operations and performance (based on a depletion contract structure) to avoid any undue exposure or residual risk for SPDC JV.
- SPDC JV Partners will participate fully in the negotiations. To mitigate the perceived bad reputation of SPDC in the event of delays, key internal and external stakeholders will be kept regularly abreast of progress in the negotiations and efforts made to reach a conclusion quickly.
- Parties have agreed to adopt a two-step approach: execute the Term Sheet (to support GigaGas financing needs) prior to negotiation and execution of the GSPA. SPDC JV Partners will be signatories to the Term Sheet (or provide approval for SPDC to execute on behalf of SPDC JV) and to the GSPA.
- The team will ensure proactive engagement with SNEPCo commercial to ensure alignment on ongoing discussions relating to Bonga AG, and leverage on this relationship to ensure alignment with NNPC and OML 118 co-venturers.

Section 5: Corporate Structure & Governance

All SPDC JV partners, including NNPC, will enter into the GSPA in their individual capacity (*similar to e.g. GSA with NLNG*). Governance will be in line with existing JOA/PSC structures.

Section 6: Functional Support & Consistency with Group Standards

Legal, Finance (including Tax & Treasury) and Commercial have provided functional support.

Section 7: Project Management, Monitoring & Review

Opportunity is managed in line with the ORS, whereby GM – Gas is the DE and Vincent Chukwueke, Integration / Demand & Supply Planning Manager, is the BOM. Florence Okoli (Gas Commercial) will lead the negotiations with support from Wale Animashaun/Ndouke Akpan (Legal), Remi Soyannwo/Tom Hazen (Finance) and Hani Zakhem (Commercial), with guidance from the BOM.

SPDC JV will be the 'face' of SCiN to external parties in this project.

Section 8: Budget Provisions

Upstream Gas has adequate budget for negotiation/execution of the GSPA and associated agreements.

Section 9: Group Financial Reporting Impact

It is not anticipated that this proposal will impact Group Reporting; any potential impact will be assessed at the time of submission of GIP.

Section 10: Disclosure

No disclosure is considered necessary at this stage. Disclosure, if required, will be in accordance with Group and SPDC JV policies and procedures, and the Confidentiality Agreement with relevant parties.

Section 11: Financing

Financing of SPDC's costs (such as staff project support) will be from SPDC JV funds. No incremental capital investments are associated with this proposal. Contracts are priced in USD, with an option of settling in USD or NGN. The NGN settlement amount is calculated using an average exchange rate for the month in which delivered. SPDC JV as seller is therefore exposed to movements in USD-NGN between the average rate for the month and the rate upon invoice settlement after invoice receipt. This risk will not be hedged. The receipts of the NGN revenues will be fully absorbed by the NGN outgoings of SPDC JV, assuming current level of spending.

Currently the lack of agreement on the gas terms makes the gas revenues un-distributable. SPDC JV has agreed in 2005 in a letter to NNPC for each venture partner to "hold" the proceeds until the terms are agreed. SPDC Ltd holds its accumulated funds from proceeds from NLNG in a dedicated current account in the name of SPDC Ltd. In case gas terms are not agreed before completing the agreements with Gigagas, the SPDC JV parties are required to hold the revenues from Gigagas (which will be in NGNs) mirroring the current practice. The team will explore how and to what extend resulting FX exposure can be mitigated. Currently we see no obligation to keep funds in NGN, however will accept the (remote) risk of NGN appreciation when the shares of revenue to the various owners are paid out. The payment risk of the counterparty is managed by a letter of credit of 3-4 month's sales value to cover the short-term exposure of the Sellers. A key construct for sale to Gigagas is that SPDC JV does not guarantee performance to Gigagas since the supply source is AG. However, should a performance guarantee to GigaGas be required from the partners in SPDC JV, it will be on a several basis and capped in amount and time. Within these boundaries it will seek to mirror the term of any performance guaranteed that the Sellers may obtain in the course of negotiations from the participants in OML118.

Section 12: Taxation

Taxation assumptions will be reviewed and material tax risks identified and managed.

Section 13: Key Parameters

The following key parameters underpin success of this proposal:

- Co-operation of OML118 parties to redirect Bonga AG to the DG market.
- Retain SPDC JV as OML118 gas seller to secure flexibility of gas supply to NLNG as back-up.
- GSPA with 1) no liability to SPDC due to GigaGas performance 2) securitization of gas revenues.
- Agree term-sheet with GigaGas to further negotiate a GSPA for sale of ca. 108 MMscfd unprocessed volumes of Bonga/EA AG for onward sale by GigaGas to the domestic market.

Section 14: Signatures

Supported by:	Consented to:
....	....
Erwin Nijsse	Bart van de Leemput
SIEP-FUP/O, VP Finance Operated	*SIEP-UPO, EVP Upstream Operated*
Date: … / … /…	Date: … / … /…

Initiated by:

....
Markus Droll
SEPA-UPO/G, VP Nigeria & Gabon,
Upstream Operated

Date: … / … /…

Appendix 1: Bonga Diversion Economics

The economic analysis is a forward looking evaluation. The base case was run using the FGN advised price of $2.30/Mscf assuming MOD with further sensitivities run using the 2015 NGMP SV and HV gas price profiles (See Table 1.1). All capex attributable to the project is assumed to be borne by GigaGas. As such, project cashflows are positive during the 5-year term of the GSPA although, the incremental value chain (upstream+midstream) NPV7 is a negative (see Table 1.2).

A further sensitivity was carried out using the FGN advised price of $2.30/Mscf assuming RT16. This resulted in about 7% value increase.

Table 1.1: Economics Grid for the GSPA (Upstream only)

PV Reference Date : 1/7/2016	GSPA NPV (S/S $ mln USD)	
Cashflow forward from:		
Base Case		
SV (2015 NGMP Price Profile)	45.7	37.7
RV ($2.30/Mmbtu , MOD)	63.9	52.9
HV (2015 NGMP Price Profile)	76	62.7
Sensitivities (using Dry Gas price of $2.50/Mmbtu, RT16)		
NGMP Dry Gas Sale (using GigaGas Facilities)		51.6
NGMP Dry Gas Sale (using SPDC Facilities)		45
Sensitivities (using Wet Gas price of $2.30/Mscf, RT16		
RV ($2.30/Mscf, RT16)	68.8	56.8

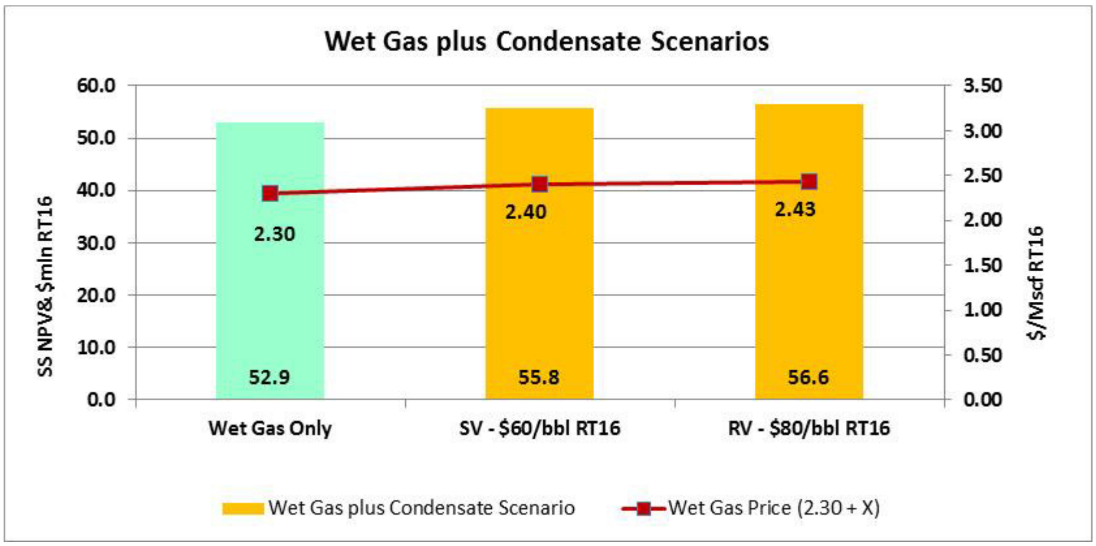
Table 1.2 Economics Grid for Incremental Value Chain (Upstream+Midstream)

PV Reference Date : 1/7/2016	INCREMENTAL VALUE CHAIN NPV (S/S $ mln USD)	
Cashflow forward from: 01/01/2016	0%	7%
Base Case		
SV (NGMP Price Profile)	-42.90	-35.89
RV ($2.30/Mmbtu , MOD)	-76.03	-62.18
HV (NGMP Price Profile)	-83.28	-66.76

The proposed commercial structure involves the sale of unprocessed wet gas at the FGN advised price of \$2.30/Mscf. However, the commercial structure would ensure SPDC shares in the value of the liquids generated from GigaGas' processing of the Wet Gas through receipt of the condensates while GigaGas retains the LPGs. SPDC-JV will therefore realise additional upside of SS NPV \$3.7mln (@ PSV-RV) vs Wet Gas only sale (that is, SS NPV of \$56.6mln vs \$52.9mln), essentially yielding an additional value (X) over and above the wet gas price due from GigaGas of \$2.30/Mscf. The potential adjusted Wet Gas prices (in "\$2.30+X" terms), based on different Condensate prices, are provided in Figure 1.3. Additional upside is limited by i) condensate being taxed as oil (85%) and ii) additional opex of \$1.1/bbl required to treat condensate sent back to SPDC facilities.

The adjusted Wet Gas prices in Figure 1.3 were determined by calculating value to Shell in Mscf price terms (that is, "\$2.30 + X") recognising a physical split of the liquids such that SPDC JV retained the condensate while GigaGas retained the LPG under a scenario where (i) condensate from the processed Wet Gas is sent back to SPDC facilities; and (ii) SPDC pays no processing tariff

Figure 1.3: Adjusted Wet Gas Price



<u>Economic and Fiscal Assumptions</u>

- Applicable fiscal regime is the PPTA(JV Operations) and CITA+AGFA for gas
- Gas price:
  - Base: \$2.30/Mscf , MOD
  - SV and HV: NGMP price profile
  - Dry Gas Scenarios: \$2.50/Mmbtu, MOD
  - Sensitivity Price of \$2.30/Mscf RT16
- Condensate Price: 2016 PSV-RV (\$80/bbl, RT16) with applicable Forcados offset
- SPDC Generic OPEX used: \$2.8/boe
- All incremental CAPEX associated with the diversion borne by GigaGas
- Education Tax of 2% assessable profit
- Gas Tax rate is 30% of chargeable profit
- Condensate Tax rate is 85% of chargeable profit
- NDDC levy of 3% total expenditure
- Shallow Water Royalty rate at 5% for Gas
- Shallow Water Royalty rate at 18.5% for Oil
- CAPEX depreciated over 5 years