



TRANSFORMATIVE PROGRAMME FOR THE DOWNSTREAM OIL AND GAS SECTOR

A Presentation

to the

Honorable Minister of Petroleum Resources

7th August 2009

AREAS OF INTERVENTION

GAS: LPG,CNG,PNG

- LPG
- CNG
- PNG

FUELS

WORLD LPG CONSUMPTION

Continent	Tonnes Per Year
Africa	10,000,000
N.America	58,000,000
S & C America	28,000,000
Europe & Eurasia	40,000,000
Middle East	12,000,000
Asia-Pacific	72,000,000

LPG CONSUMPTION - AFRICA

Country	MT/Per Year	kg Per Capita
Nigeria	58,000	0.39
Ghana	71,000	3.00
S.Africa	220,000	5.50
Morroco	1,455,000	4440
Egypt	3,370,000	43.05
Cameroon	28,000	1.90
Cote D'Ivoire	50,000	2.80
Senegal	100,000	11.00
Angola	50,000	4.00
Congo Rep	4,000	140
Gabon	17,000	13.00

(LPG) PRICES IN ASIA COMPARED WITH PRICE IN NIGERIA

Country	Package Weight Per Cylinder	Retails Price (INR)	Retails Price (USD)	Wholesale Price (USD)
India	14.2 Kilograms	Rs. 393	USD 10.00	USD 8.00
Pakisatan	14.5 Kilograms	Rs.412	USD 6.75	USD 5.75
Sri Lanka	14.5 Kilograms	Rs. 372	USD 3.30	USD 3.00
Nigeria	12.5 Kilograms	N 3500	USD 23.33	USD 14.00
<p>In essence India retails at US\$ 700 per ton = N84,000 per ton. Pakistan retails LPG at U\$ 465 per ton = N56,000 per ton. Nigeria retails LPG at US\$ 1200 per ton = N175,200 per ton.</p>				

LIQUEFIED PETROLEUM GAS PRODUCERS IN NIGERIA I

PRODUCT EVALUATION

Total LPG Production Capacity (2.2Million MT)

S/N	REFINERIES	LPG CAPACITY MT per annum
1	Port Harcourt	130,000
2	Warri	70,000
3	Kaduna	160,000
	Sub-total	360,000
	GAS PLANTS	
4	Chevron Escravos	280,000
5	Mobil	1,040,000
6	Nigeria LNG Ltd	830,000
	Sub- total	1,810,000
	Grand Total	2,170,000

LPG PRODUCERS IN NIGERIA II

- Exxon Mobil- OsoBrt - 600,000 Tons per year
- NLNG - Bonny Island - 700,000 Tons per year
- Chevron - Escravos - 500,000 Tons per year
- Warri / PH refinery- 100,000 Tons per year

Current production of LPG is about 2 Million Tons per year. Nigeria's LPG production is expected to increase to 4 Million Tons by 2015.

While over 2 million tons of LPG is exported annually by NLNG (Shell/NNPC), Exxon Mobil and Chevron, no one has taken much interest in the domestic market. Not even NNPC.- which should normally be the face of the public.

LPG STORAGE FACILITIES IN NIGERIA

DEPOTS	STORAGE CAPACITY CENTRAL	CUBIC METERS	LOCATION
	(Tons)	(m ³)	
a) PPMC, Apapa Oil Jetty	4000	8000	Apapa
NNPC/PPMC Butanization Plants	8000	16,000	calabar, ,Ibadan, Ilorin, Kano,Enugu,Gombe, Gusau, Makurdi
b) Sahara	1000	2000	Calabar
c) NIPCO PLC, Apapa Oil Jetty	4500	9000	Apapa
d) Conoil, Lagos	500	1000	Apapa
e) AP, Lagos	500	1000	Apapa
f) TOTAL	1000	2000	Apapa
g) Vitol (under construction)	8000	16000	Lagos
TOTAL	27,500 tons	55,000 m³	

WHY IS LPG IN SHORT SUPPLY AND EXPENSIVE IN NIGERIA?

- It is ironical that despite being richly endowed with oil & gas, Nigeria is jinxed with its inability to serve its populace with the basics of life.
- Nigeria's annual LPG production of over 2 million tons is geared only for export. No one has shown interest to serve the domestic LPG needs of Nigeria. Now that Government's attention has been towards finding alternatives to Kerosene as Cooking gas and Petrol as vehicular fuel, various companies are now frantically trying to introduce LPG in the domestic market.
- However, the bottlenecks facing increased usage of LPG for the domestic market are:
 - Shipping Logistics
 - Supply and Pricing

CHALLENGES

LOGISTICS:

a) NLNG

NLNG insist on loading vessels of 20,000 Tons (40,000 cum) or more at its jetty. NLNG cannot load smaller vessels. Currently NLNG has chartered the M.T SAGA's replacement - B.W. BOSS to act as LPG Storage offshore Nigeria at a cost of some USD 25,000 per day costing over USD 8 Million per year.

b) EXXON MOBIL-OSO/BRT

ExxonMobil also insists on loading vessels of 15,000 tons or more on grounds that its jetty has a minimum PBL requirement of 55 metres. This means smaller vessels are automatically disqualified. Realistically, suitable vessels have to be of around 15,000 tons (30,000 m³) to be qualified for loading and such vessels cost USD 800,000 per month on time charter of 12 months.

c) CHEVRON

CHEVRON only produces Propane rich LPG (a mixture of 60 % propane and 40% butane). Secondly Chevron stores its LPG in a 'FPSO' whose loading requirements dictate vessels of no less than 30,000 cum (15000 tons).

Chevron's LPG is therefore unavailable to the domestic market because of the restrictions of product type & loading conditions.

CHALLENGES II

LOGISTICS:

2. SEA TRANSPORTATION:

In addition, all the above 3 companies produce and store LPG in a fully refrigerated form that reduces the type of vessels you can charter to load at their terminals. Bulk LPG in quantity can only be transported by sea in vessels that are either pressurized, semi refrigerated or fully refrigerated. Pressurized vessels are the least expensive whereas fully refrigerated vessels - the most expensive.

Since Nigeria's current LPG requirement is negligible and LPG vessels are expensive to either buy or even charter - this exercise is at best tricky. For instance to charter a suitable vessel to load at Exxon Mobil's OSO/BRT facility one would have to pay USD 750,000 per month and add other costs of War risks + Pirate premiums - ends up costing USD 800,000 per month. The minimum charter one can fix is for 12 months. Thus the minimum total exposure one has to take for a 15,000 ton vessel (to meet Apapa's draft restrictions) would entail an annual cost of some US\$10 million, ironically to serve an annual national requirement of only 60,000 tons.

Therein lies the problem in that chartering a 15000 tons vessel, you would need to make only 4 journeys per year to satisfy your annual domestic market. What does the vessel do for the balance of the year?

CHALLENGES III

JETTY LIMITATIONS

- ❖ Limitation of jetties for timely berthing of vessels delivering LPG for domestic market-only Apapa and Calabar jetties are available.
- ❖ Long delays and attendant demurrage charges at Apapa jetty owing to congestion and availability of only one discharge berth arm for LPG.
- ❖ Draught limitations which limit vessels that can berth at Apapa to maximum of about 7,000mt only.
- ❖ Preferential treatment for the delivery of “white products” over LPG.
- ❖ The berths at NLNG, MPN and CHEVRON Gas Plants at Bonny and Escravos cannot accommodate small vessels of 1,000-6,000mt which is the suitable capacity range for LPG Coastal liftings.

CHALLENGES IV

•NIGERIA CURRENT STATUS: SUPPLY & PRICING

- Until the year 2000, all domestic LPG was provided by the refineries. This LPG was largely butane rich LPG (>90%). Butane LPG prices ex-refinery was in the region of N 40,000 per ton. Domestic cooking gas sold at Naira 400 per 12.5 kg cylinder.
- From year 2000 onwards, because the refineries were epileptic, prices of refinery LPG gradually shot up to N 90,000 per ton. Domestic cooking gas sold at Naira 1,500 per 12.5 kg cylinder
- By 2006, refineries were almost shutdown. Consequently LPG prices shot up further to Naira 150,000 per ton. Hyson and Lee Global started LPG importation. Imported LPG attracts 40 % duty.
- By 2007, prices became astronomical- up to Naira 250,000 per ton. LPG for cooking gas retailed at more than Naira 3,000 per 12.5 kg cylinder. Domestic LPG consumption dropped dramatically.
- In 2008, NLNG butane LPG was available through 6 offtakers at a price of around Naira 150,000 per ton ex Lagos PPMC depot.
- With the arrival of NIPCO PLC, LPG is now available at around Naira 100,000 per ton ex-Lagos depot

CHALLENGES VI

CHALLENGES OF LPG SUPPLY & DISTRIBUTION

- The four marine loading arms at PHRC and WRPC jetties have been out of use for over six years
- Truck loading arms at the three refineries have been out of use for years
- ❖ **Road Haulage:**
 - The estimated tank truck population is 130 with a total capacity of 1,900mt. Out of these, about 30-40% are down and out of use.
 - Most of the truck loading arms at the secondary Butanization depots will also require maintenance
- ❖ **Market Demand**
 - Low demand due to:
 - ✓ lack of awareness
 - ✓ High cost of Gas, and its appliances (Cylinders and Cookers)
 - ✓ Uneven distribution of Gas filling plants

CHALLENGES VII

NIGERIAN LPG CYLINDERS

The condition of most LPG cylinders is awful - especially those that are more than 2 years old. Nigeria has 2 manufacturers of LPG cylinders. Both are very old plants with antiquated machinery. Production costs in Nigeria are almost twice compared with other countries. cylinders should cost less than US\$ 25 per 12.5 kg cylinder CFR Lagos. light weight cylinders would cost some US\$ 40 per cylinder.

12.5 Kg LPG Cylinder Quote comparisons.

Supplier	Quote/Cylinder	Remarks
Mahaverr Cylinders - India	21 USD	FOB-Delhi
Mauria Udyog Ltd - India	26.48USD	CIF Apapa, PO on Minimum 2 Container loads(3000 Cylinders)
C-Gas Cylinders - Nigeria	N 6800 (\$45.33)	Local supplier have all approvals
Midland Galvanising Products L Td- Nig	N8474 (\$56.49)	Ex-Factory(Does not include Transportation)

LPG CONSUMPTION/ PROJECTION: 2006-2015

YEAR	ACTUAL LPG FIGURES IN MT	PROJECTED LPG FIGURES IN MT	ACTUAL LPG FIGURES IN LITRES	PROJECTED LPG FIGURES IN LITRES	PROJECTED NO OF 12.5KG CYLINDERS	ACTUAL LPG CONSUMPTION IN KG	PROJECTED LPG CONSUMPTION IN KG	ACTUAL 12.5KG LPG CONSUMPTION IN CYLINDERS
2006	58,000		100,920,000		80,736	58,000,000		4,640,000
2007	60,000		104,400,000		83,552	60,000,000		4,800,000
2008	100,000		174,400,000		139,200	100,000,000		8,000,000
2009		120,000		208,800,000	167,040		120,000,000	9,600,000
2010		1m		1,740,000,000	1,392,000		1,000,000,000	
2011		5m		8,700,000,000	6,960,000		5,000,000,000	
2012		10m		17,400,000,000	13,920,000		10,000,000,000	
2013		20m		34,800,000,000	27,840,000		20,000,000,000	
2014		35m		60,900,000,000	48,720,000		35,000,000,000	
2015		50m		87,000,000,000	69,600,000		50,000,000,000	

Footnote:

- Conversion Methodology: LPG Butane = 1.74 litres per Kilogram,
- 1 Metric ton = 17.40 Kilogram and 1740 litres per Metric ton
- This Table projects 69,600,000 12.5 kg Cylinders in the system by 2015 based on a 50million MT per annum utilization by 2015.
- This is from an estimated 2009 figure of 167,040 12.5kg



STRATEGIES TO BOOST LPG UTILIZATION IN NIGERIA

Supply and Distribution

- Improving product availability for the domestic market
- Modifying, modernizing and upgrading receptacle facilities to enable small vessels to berth and evacuate products from all the IOC facilities.

Implementing an appropriate and functional incentive regime

INCENTIVES REGIMES IN DIFFERENT COUNTRIES

COUNTRY	AMOUNT	REMARKS
USA	US\$ 3,000	Tax credit for conversion to LPG
Canada - Ontario	US\$ 750	Tax credit for conversion to LPG
Australia	US\$ 2,000	Grant for new or used cars starting July 2009
N.Zealand		Interest free loan to help buy LPG equipment for converting the Falcon / Commodore - 2 of their favourite taxis
Italy	(US\$ 4970) 3500€	Incentive to buy LPG cars has triple sales
UK - Milton Keves	(US\$ 231) £140	Parking fees waived for cars running on LPG
UK		Chancellor has extended commitment on level of fuel duty to 5 years for LPG compared to petrol
UK	(US\$ 297) £180	Road tax reduced for LPG vehicles
UK - London	(US\$ 13) £8/day	Congestion fee waived for cars running on LPG

INCENTIVES REGIME I

AUTO LPG

Nigeria should expeditiously encourage the conversion of gasoline engines to dual fuel (PMS & Auto LPG) similar to countries like Italy, United Kingdom, Australia, New Zealand and Canada.

Federal Government should consider providing:

- Duty free import of LPG conversion kits.
- 75% subsidy on LPG conversion kits (actual price is US\$ 500 per kit conversion cost). LPG conversion kits should be marketed by accredited distributor at Naira 20,000 per unit.
- Federal Government of Nigeria should make a policy requiring that all engines in the future should be dual fuelled - either petrol or diesel and LPG / CNG.
- Government at all levels (Federal, State and Local) should give out conversion kits to all its workers free of charge.

INCENTIVES REGIME II

LPG for DOMESTIC USE

Federal Government should grant:

- Duty free import of all inputs and raw materials used for the manufacturing of LPG cylinders and accessories to local Manufacturers.
- Government should ban the importation of all LPG cylinders cookers and accessories with a view to encourage local manufacture.
- Government at all levels (Federal, State and Local) should patronize local Manufactures for the supply of LPG cylinders cookers and accessories and give such items to all its workers free of charge.
- Government should evolve a cylinder revolving scheme that will ensure the withdrawal and replacement of old and substandard cylinders.

INCENTIVES III

Economics of a Model Incentive Scheme

ONE 12.5KG CYLINDER KIT PER FEDERAL CIVIL SERVANT (LPG EXPANSION SCENARIO)

TOTAL SUBSIDY ON HHK 2006-2008	ESTIMATED NO OF CIVIL SERVANTS	UNIT COST OF LPG KITS INCLUDING HOST, VALVE, ETC	TOTAL COST OF ONE LPG KIT PER CIVIL SERVANT	PROJECTED IMPACT OF 1 MILLION CYLINDERS ON THE SECTOR					
				% COST IMPLICATION COMPARED TO HHK SUBSIDY	ACTUAL 2008 LPG CONSUMPTION IN MT	ACTUAL 12.5KG CYLINDERS IN 2008	1 MILLION ADDITIONAL CYLINDER + 2008 EXISTING FIGURE	EXPECTED IMPACT ON CONSUMPTION LEVEL IN MT PER MONTH	EXPECTED IMPACT ON CONSUMPTION LEVEL IN MT PER YEAR
367.824b	1,000,000	15,000	15B	4%	60,000	8,000,000	9,000,000	5172.41	62,068.92

This approach is estimated to increase LPG consumption level by 5172 MT monthly and 62,068.92 MT yearly. The 15B Naira to be expended is a mere 4% of total Subsidy on HHK for 2006-2008

INCENTIVES IV

PROJECTED IMPACT OF HHK SUBSIDIES ON THE LPG SUBSECTOR AND THE ECONOMY

YEAR (A)	HHK SUBSIDY IN BILLION NAIRA (B)	10% OF HHK SUBSIDY TO BE USED IN LPG (C)	ACTUAL 12.5KG FIGURES (D)	ADDITIONAL NO. OF 12.5KG TO BE GENERATED BY SUBSIDY (E)	TOTAL D + E (F)	% INCREASE (G)
2006	88.456	8.8456	4,640,000	5,897,066.67	10,537,066.67	127.00%
2007	90.814	9.0814	4,800,000	5,342,000.00	10,142,000.00	111.00%
2008	188.554	18.8554	8,000,000	9,427,700.00	17,427,700.00	118.00%

This table assumes **10%** of HHK subsidy expended on LPG from 2006-2008

The result translates to over **100%** increase in LPG utilisation for each of the 3 years

INCENTIVES V

PROJECTED IMPACT OF HHK SUBSIDIES ON THE LPG SUBSECTOR AND THE ECONOMY

YEAR (A)	HHK SUBSIDY IN BILLION NAIRA (B)	20% OF HHK SUBSIDY TO BE USED IN LPG (C)	ACTUAL 12.5KG BY FIGURES (D)	ADDITIONAL NO. OF 12.5KG TO BE GENERATED BY SUBSIDY (E)	TOTAL D + E (F)	% INCREASE (G)
2006	88.456	17.6912	4,640,000	11,794,133.33	16,434,133.33	254.00%
2007	90.814	18.1628	4,800,000	10,684,000.00	15,484,000.00	223.00%
2008	188.554	37.7108	8,000,000	18,855,400.00	26,855,400.00	236.00%

This table assumes **20%** of HHK subsidy expended on LPG from 2006-2008

The result translates to over **200%** increase in LPG utilisation for each of the 3 years

INCENTIVES VI

PROJECTED IMPACT OF HHK SUBSIDIES ON THE LPG SUBSECTOR AND THE ECONOMY

YEAR (A)	HHK SUBSIDY IN BILLION NAIRA (B)	30% OF HHK SUBSIDY TO BE USED IN LPG (C)	ACTUAL 12.5KG BY FIGURES (D)	ADDITIONAL NO. OF 12.5KG TO BE GENERATED BY SUBSIDY (E)	TOTAL D + E (F)	% INCREASE (G)
2006	88.456	26.537	4,640,000	17,691,333.33	22,331,333.33	381.00%
2007	90.814	27.244	4,800,000	16,025,882.35	20,825,882.35	334.00%
2008	188.554	56.566	8,000,000	28,283,000.00	36,283,000.00	354.00%

This table assumes **30%** of HHK subsidy expended on LPG from 2006-2008
The result translates to over **300%** increase in LPG utilisation for each of the 3 years

INCENTIVES VII

PROJECTED IMPACT OF HHK SUBSIDIES ON THE LPG SUBSECTOR AND THE ECONOMY

YEAR (A)	HHK SUBSIDY IN BILLION NAIRA (B)	40% OF HHK SUBSIDY TO BE USED IN LPG (C)	ACTUAL 12.5KG BY FIGURES (D)	ADDITIONAL NO. OF 12.5KG TO BE GENERATED BY SUBSIDY (E)	TOTAL D + E (F)	% INCREASE (G)
2006	88.456	35.38	4,640,000	23,586,666.67	28,226,666.67	508%
2007	90.814	36.33	4,800,000	21,370,588.24	26,170,588.24	445%
2008	188.554	75.42	8,000,000	37,710,000.00	45,710,000.00	471%

This table assumes **40%** of HHK subsidy expended on LPG from 2006-2008
The result translates to over **400%** increase in LPG utilisation for each of the 3 years

INCENTIVES VIII

PROJECTED IMPACT OF HHK SUBSIDIES ON THE LPG SUBSECTOR AND THE ECONOMY

YEAR (A)	HHK SUBSIDY IN BILLION NAIRA (B)	50% OF HHK SUBSIDY TO BE USED IN LPG (C)	ACTUAL 12.5KG BY FIGURES (D)	ADDITIONAL NO. OF 12.5KG TO BE GENERATED BY SUBSIDY (E)	TOTAL D + E (F)	% INCREASE (G)
2006	88.456	44.42	4,640,000	29,613,333.33	34,253,333.33	638%
2007	90.814	45.41	4,800,000	26,711,764.71	31,511,764.71	556%
2008	188.554	94.28	8,000,000	47,140,000.00	55,140,000.00	589%

This table assumes **50%** of HHK subsidy expended on LPG from 2006-2008

The result translates to over **500%** increase in LPG utilisation for each of the 3 years

CNG

The following decision were taken based on the presentation made to the Honorable Minister:

- CNG to be incorporated into the Gas Master Plan.
- Government should encourage investors by providing incentives for engine conversion, Land acquisition etc.
- The Honorable Minister to intervene so as to facilitate issuance of licenses/ permit for CNG outlets by Agencies involved in good time.
- Migration from Gasoline to CNG will be gradual due to large capital involved in CNG stations.

CNG

- Adequate sensitization required for Nigerians to be convinced about the need to move from Carbon emission fuel to a more environmentally friendly fuel –CNG.
- State of the CNG franchise granted Contec Global, NIPCO and Global Infrastructure for Lagos, Benin and Abuja respectively. To be assessed.
- Opening up of new franchise areas to be considered.

CNG REVIEW TEAM ..II

ACTION SO FAR TAKEN

Incentive regime is being worked out to promote CNG utilisation. These include:

- Implementation of the duty free concession on CNG conversion kits.
- Concessions on land acquisitions for CNG outlets by State Governments
- Duty concessions on CNG facilities and equipments.
- Nipco Plc is expected to commission four of its CNG outlets in Benin soon
- CNG franchise for Lagos Area- Contec Global has been located and has returned to the negotiation table with NGC and DPR

CNG REVIEW TEAM ..II

- Accordingly Contec Global has assured of its first CNG retail outlet in Lagos by December 2009-February 2010
- CNG franchise owner for Abuja Area, Global Infrastructure could not be located and all indications point to the fact that the company has abandoned the franchise.
- Machinery has been set in motion to franchise a new company for Abuja and the following locations: Lokoja, Calabar, Port Harcourt, Aba , Enugu and Warri
- The CNG review team has been mandated to come up with the modalities accordingly.

INCENTIVE REGIME FOR CNG

- Concessionary land allocation for CNG outlets by Federal and state Governments.
- Duty concessions on CNG equipments in addition to conversion kits.
- Subsidy of PMS to CNG conversion by Government.

INCENTIVE REGIME FOR CNG II CARS CNG EXPANSION SCENARIO

COST OF CNG KITS PER VEHICLE	COST OF ACQUIRING KITS FOR 1M VEHICLES	COMPARATIVE SAVING ON PMS EXPENDITURE ANALYSIS						
		AVERAGE DAILY PMS CONSUMPTION OF ONE CAR	MONTHLY	YEARLY	1M CARS IN ONE YEAR	CURRENT VALUE OF 3.6M LITRES OF PMS @N79.21/LTR	SUBSIDY ON CURRENT PRICE OF N79.21/LTR	TOTAL SUBSIDY FOR 1M CARS
N50,000	N50b	10litres	300 litres	3,600litres	3.6b litres	N285.2b	N14.21k/lt r	N51.2b

While N50B is required to convert 1 Million cars to locally produced CNG, N51.2B is expended on PMS subsidy on 1 Million cars yearly

PNG

- Recent interventions by the Ministry and PPPRA have been on the issue of supply of piped natural gas to industries in the free trade zones specifically the Olokola FTZ and Lekki/Epe FTZ
- This problem was brought to attention by Viva Methanol, a two billion naira project in the Lekki FTZ which has been stalled for seven years on account of uncertainties over PNG supply
- All parties involved including the NGC have been brought to the negotiating table and are making progress towards ensuring Gas supply to Viva methanol and all other industries planned for the free trade zones

END

THANK YOU FOR YOUR ATTENTION.

WWW.pppra-nigeria.org