

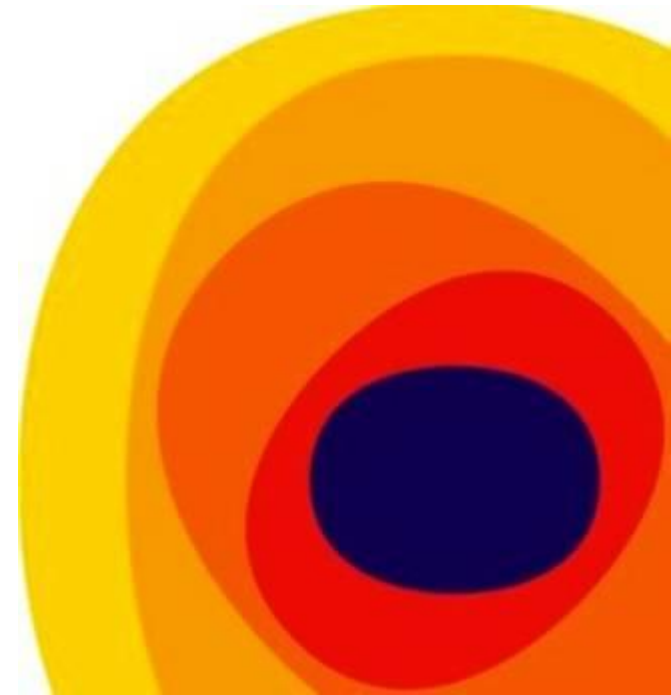


Constraints to Domestic Gas Supply: Oando Experience

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Outline

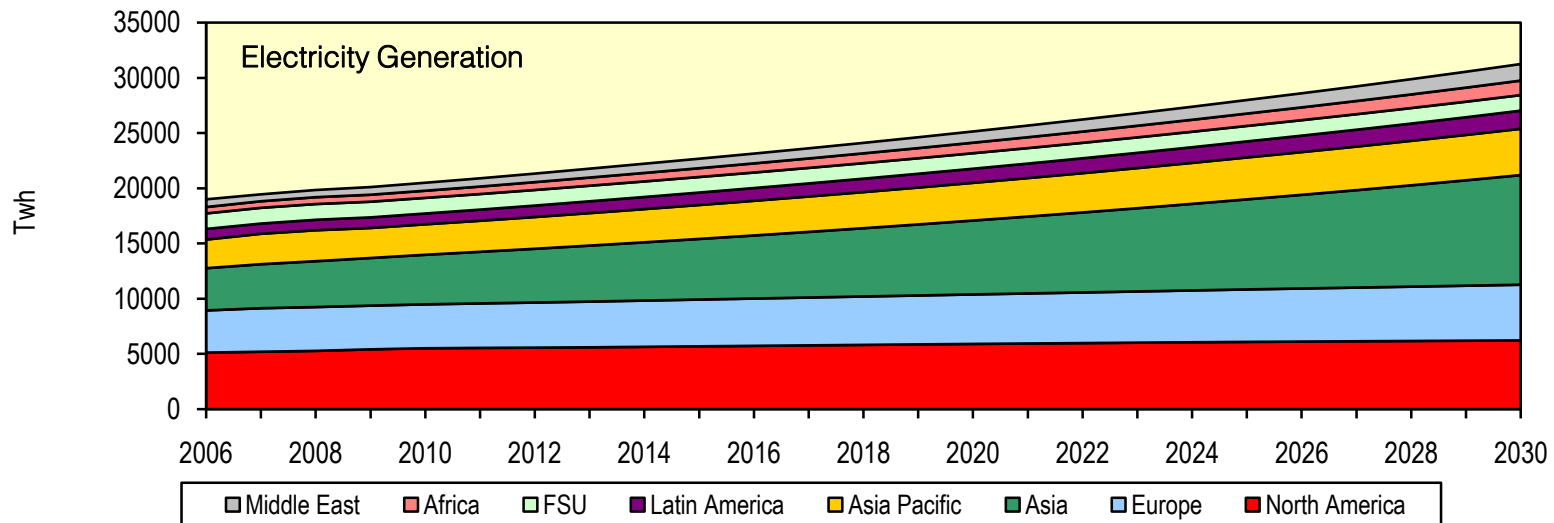
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- Background
- Constraints and Challenges
- Oando's Experience
- Conclusion

Background: Electricity Generation by Fuel Mix

Electricity Generation Market

- Electricity generation market has historically been an important driver for growth in gas demand throughout the world
 - Accounted for about half of the increase in world gas demand between 1990 and 2006
 - Gas has increased its share in the electricity generation in the developing countries.
 - Electricity demand has been growing at a faster rate than other forms of energy, especially in developing countries.



Source: NEXANT's Gas Market Outlook, June 2010

Background: Electricity Generation by Fuel Mix (Contd)

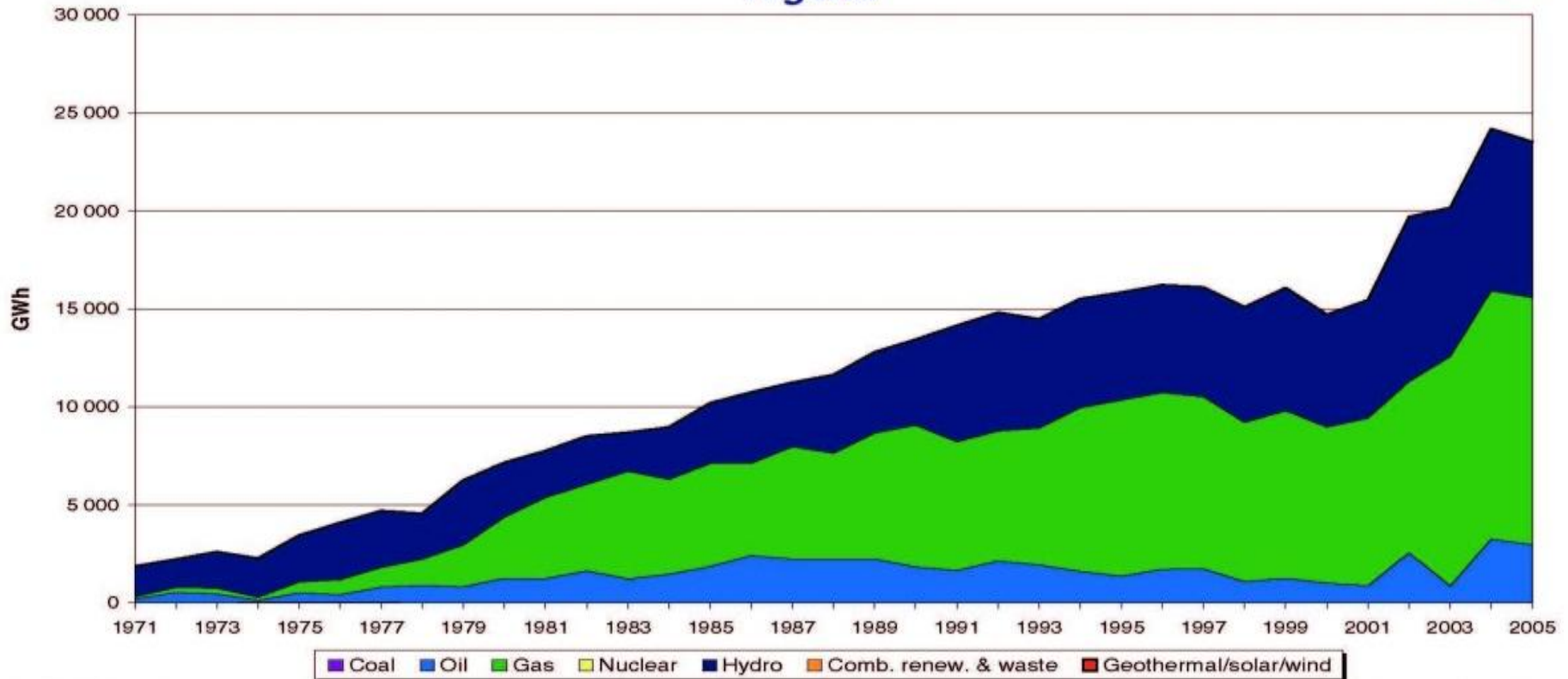
IEA Energy Statistics

Statistics on the Web: <http://www.iea.org/statist/index.htm>



Evolution of Electricity Generation by Fuel from 1971 to 2005

Nigeria



© OECD/IEA 2007

For more detailed data, please consult our on-line data service at <http://data.iea.org>.

Background: Nigeria's Gas Industry

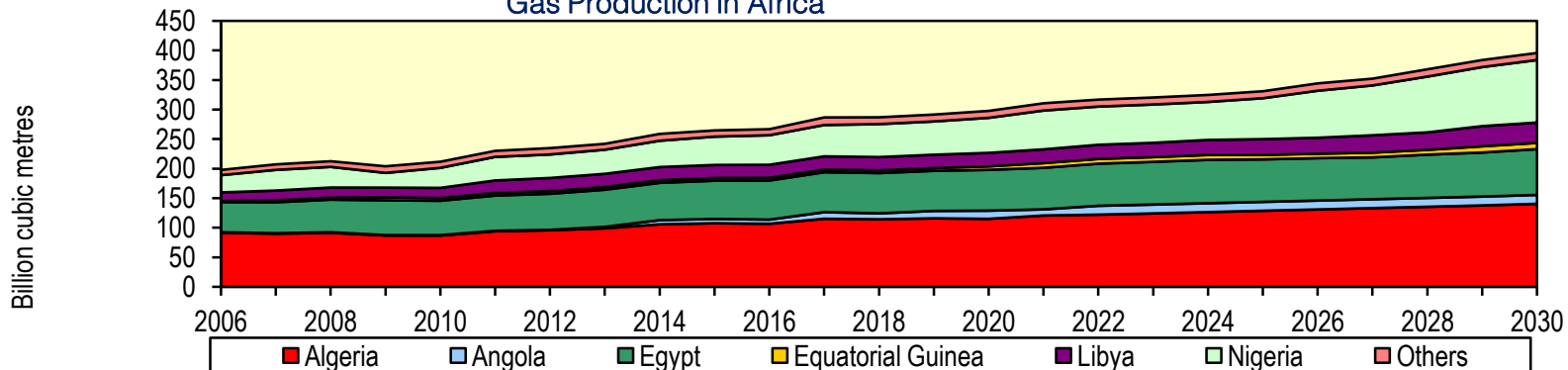
Reserves

- Nigeria has proved recoverable gas reserves of 185 Tcf (BP, 2009)
 - 7th largest reserves in the world, Holds one-third of Africa's proven reserves
- Concentration of gas reserves in South-South and South-East while demand intensity is higher in the South-West and North
 - Reserves manifest in a fragmented fashion

Supply

- Nigeria accounts for 16% of Africa's production
 - According to the Global Gas Flaring Reduction Partnership, about 30% of Nigeria's production was flared in 2008
 - Gas development and supply heavily skewed in favour of export markets
- Some odd 80% of produced gas is destined for the export market.

Gas Production in Africa



Source: NEXANT's Gas Market Outlook, June 2010

Source: NGMP

Background: Nigeria's Gas Industry

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Upstream/Midstream

- Nigeria's gas infrastructure spans 8 gas systems consisting of approximately 2,600 km of pipelines and 14 compressor stations.
 - Sapele gas supply systems, which supplies gas to NEPA Power Station at Ogorode, Sapele;
 - Aladja system, which supplies the Delta Steel Company, Aladja,
 - River-Aba system for gas supply to the Industrial area.
 - Obigbo North-Afam system
 - Alakiri to Onne Gas pipeline system which supplies gas to the National Fertiliser Company (NAFCON)
 - Alakiri-Afam-Ikot Abasi which supplies the Aluminium Smelting Plant (ALSCON)
 - Escravos-Lagos Pipeline (ELP).
- The gas infrastructure also includes gas plants with a processing capacity of over 4,600mmscf/d of Associated and Non-Associated Gas (AG & NAG)

Downstream

- Demand constrained by inadequate supply infrastructure.
- Less than one thousand kilometers of domestic gas pipelines as against a potential 10,000km
- Lack of an interconnection infrastructure linking the regions.
- Open access and collective development of infrastructure is key

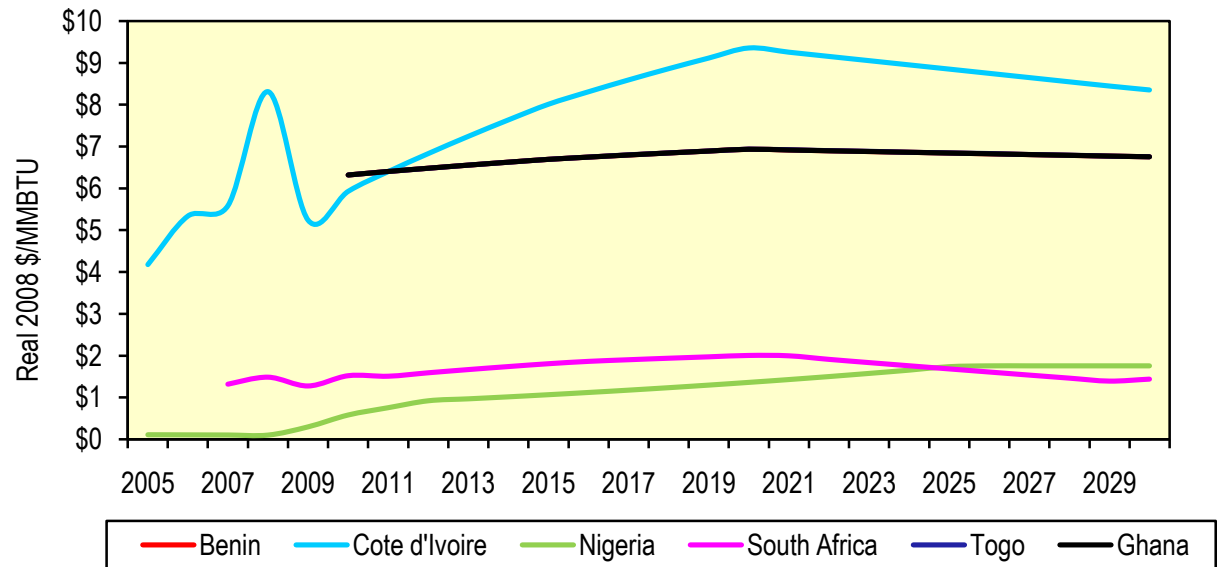
Background: Nigeria's Gas Industry

Gas Pricing

- Gas developed for export is better priced
- PHCN offtakes about 90% of domestic gas consumption and, until recently, was paying ~ \$0.1/mmbtu
- Nigerian Gas Company (NGC), through its franchises, sold gas to industrial customers on the “alternative-fuel” model where gas is sold as a discount to the next alternative fuel (i.e LPFO)
- Overall, poor and unsustainable pricing for gas in the domestic market
 - Significant disincentive to upstream players in investing on gas supply development and infrastructure

- Government's increased focus on appropriate pricing is welcome and should be for full value chain, rather than current fixation on the upstream segment only.

Wholesale Gas Prices : West and South Africa



Source: NEXANT's Gas Market Outlook, June 2010

Background: Nigeria's Gas Industry

Nigerian Gas Master Plan

- Central Processing Facilities in 3 Franchise Areas
- Major & strategic pipelines to create a scalable evacuation and transport capacities for domestic gas utilization
- Efforts at creating a pricing framework to address viability of investment
- 2300km additional pipelines planned in Nigerian Gas Master Plan (NGMP)



Funding

- Major gas projects in Nigeria have historically been carried out by the government and her joint venture partners.
- There is increasing government support for domestic gas supply projects on a ring-fenced basis.
- Local finance institutions, even after recapitalization, are not able to muster the finance required for gas sector investment
- Significant tenor and instrument mismatches remain a major issue in raising capital for infrastructural developments.
- Quality of counterparties and bankability of investments

Regulatory

- Adequate enabling regulation for the downstream gas sector has been the bane of the sector's development
- Non/partial deregulation and closed access to infrastructure remains an issue
 - Third party access to gas transport infrastructure
- Acquiring Right-of-Way (ROW) can often prove difficult

Sanctity of Contract

- Investments of the scale required remain a dream where contracts underpinning them cannot be enforced.
- "Take or Pay" provisions in contracts the way to go in securing needed financing.

Challenges

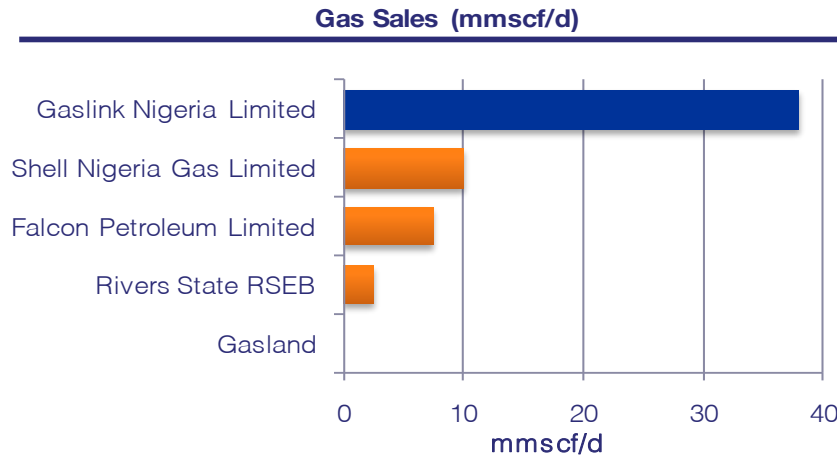
Community Issues

- Extra spend on security leading to premium charged by EPC contractors
 - The attendant escalating costs continue to erode the economic prospects of investments
- Projects are taking much longer to complete as a result of non-access to work sites.

Oando's Experience : Investment in Gas Distribution

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- In domestic distribution of gas, Oando is both the pioneer and the market leader

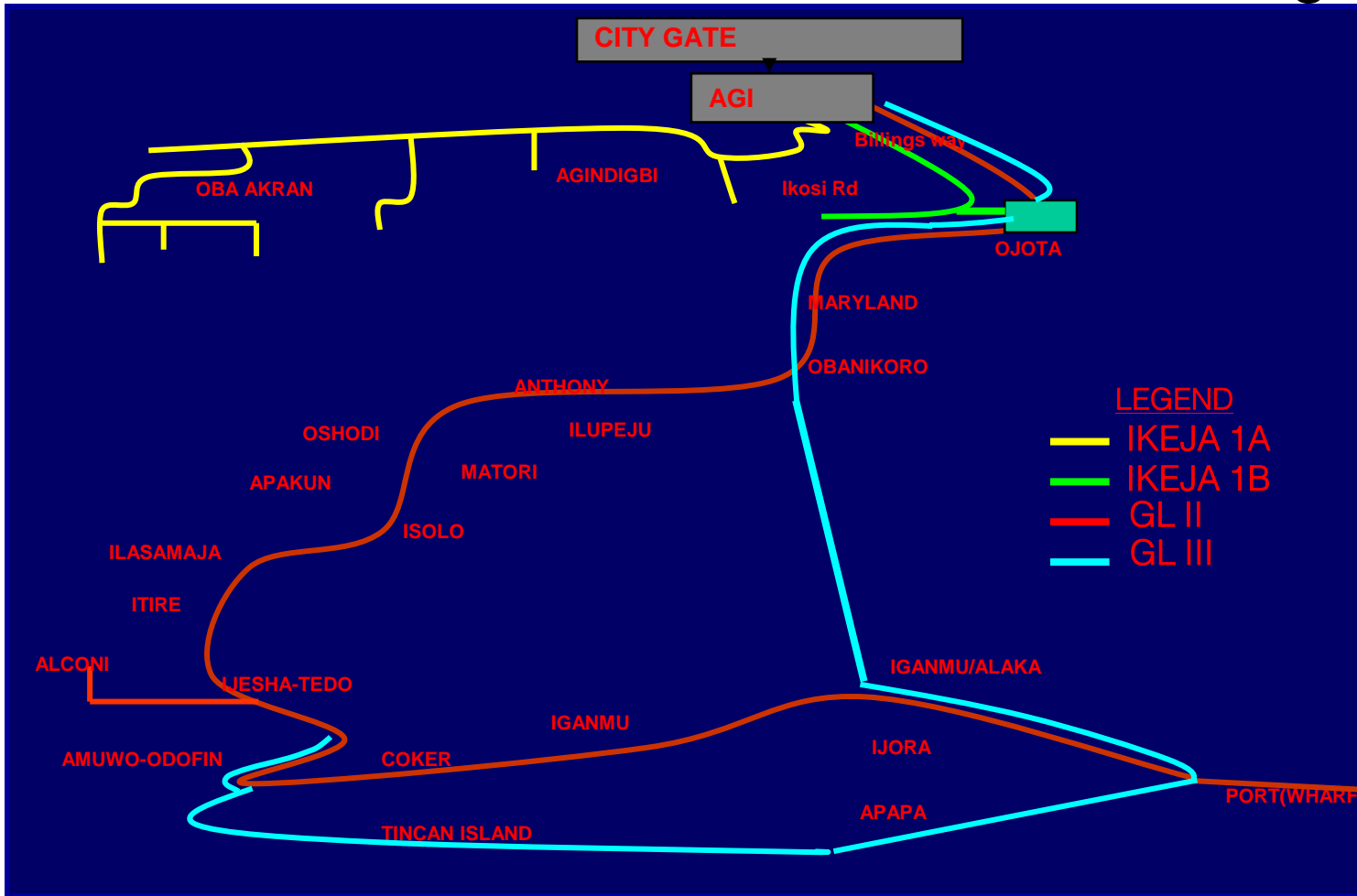


GasLink Nigeria Limited is a full subsidiary of Oando Plc.

Source: Oando :Industry Analysis as at December 2009

- To date, Oando has invested over N16 billion in developing Gaslink's >100km gas pipeline network in the Greater Lagos Area.
 - System's installed capacity is about 65mmscfd ~ 270MW of electric power
 - Existing demand is about 40mmscfd ~ about 160MW of electric power
 - Currently serves >100 industrial customers

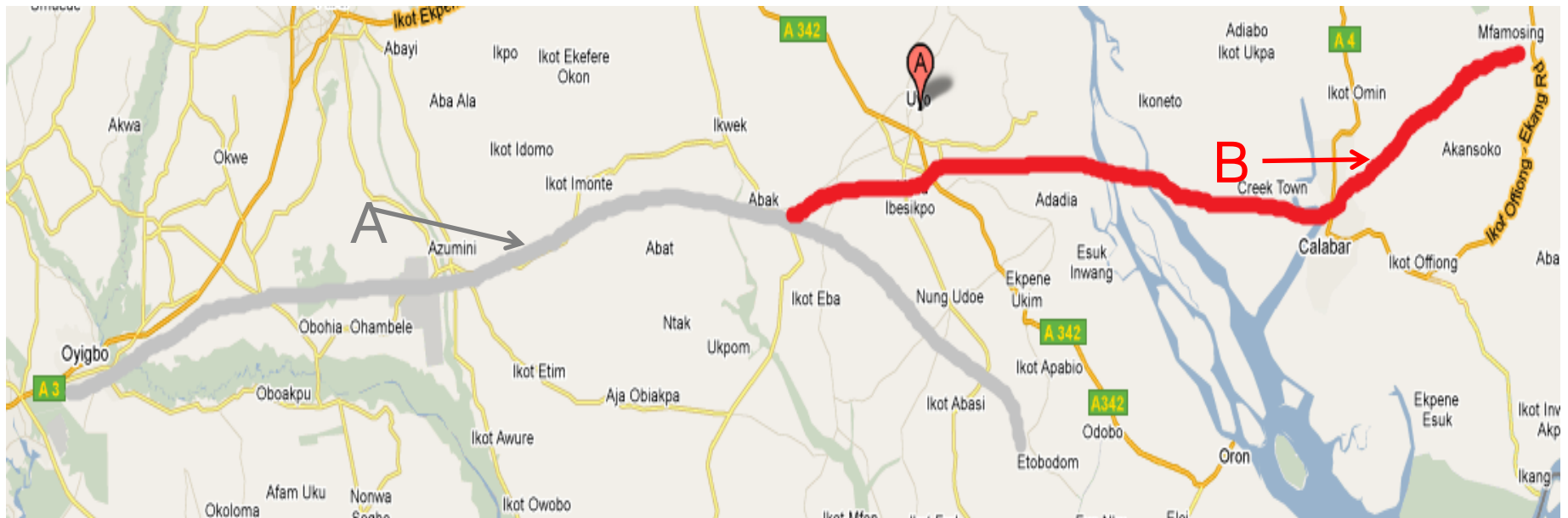
Schematic of Gaslink's Grid in the Greater Lagos Area



Oando's Experience : Investment in Gas Distribution

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- > N18 billion in expenditure to develop a 128km cross- country gas pipeline in the South East
 - Transversing Akwa Ibom and Cross River states
 - Capacity of 100mmscfd, with UNICEM as foundation customer
 - Target “Go-Live” date of Q4 2010



Key:

A - NGC's Obigbo - ALSCON main line – Gas source is Obigbo

B - East Horizon Gas Company transmission line – connects to the NGC main line in Abak

OPL 236

- Oando has OPL 236, a gas asset, to serve identified customers in the region
 - P10 reserves of 65bcf

Akute Power Plant

- 12MW independent power plant developed for Lagos Water Corporation (LWC) under a Public Private Partnership (PPP) arrangement
 - Raising LWC's water generation capacity from 35% to 85%
- Provides dedicated power supply to the major water works (Akute, Iju & Adiyari) of the LWC
- The first Independent Power Project (IPP) to be 100% project-financed in Nigeria

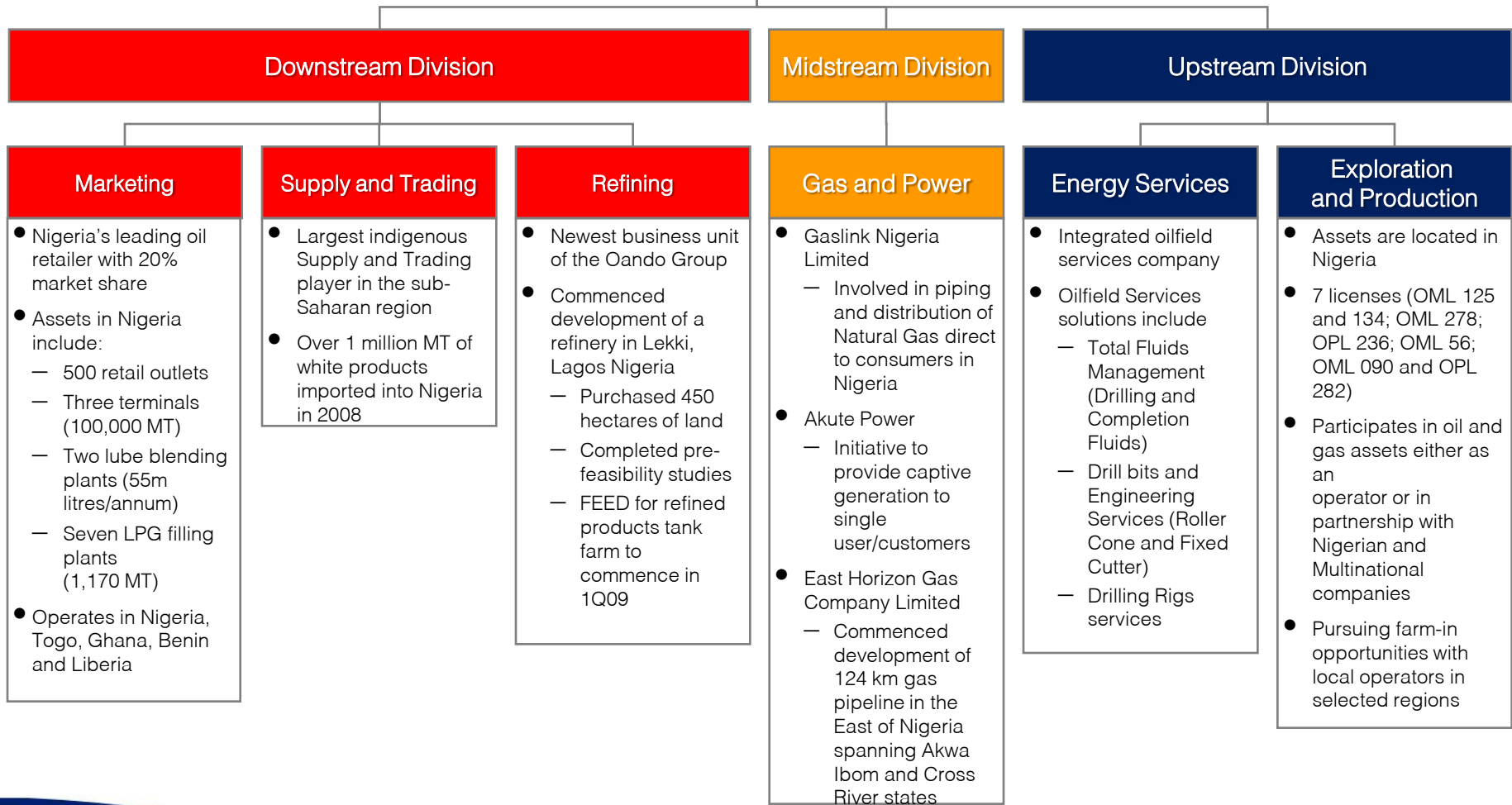


Conclusion

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1. Investment in the total gas value chain remains attractive to achieve the “gas to power” aspiration. Pricing should be appropriate and reflective of the risks and resources committed across all segments of the chain.
2. The sanctity of contracts and agreements be recognised key to unlocking investment in much needed infrastructure.
3. Stability in government policy and regulation for the industry is understood as a necessity for both present and future investments.
4. The tenets of Open Access be upheld.
5. Gas pricing be market-led even in the now to incentivise needed investments.
6. Government protects committed investors like Oando who are painstakingly investing in long-term infrastructure that will unlock our economic potentials.

Oando Company Overview





Oando

Thank you!

