



2021 Ghana Gas Forum-

Unlocking the Natural Gas Demand Potential in Ghana

Presentation By:

Olufisayo Duduyemi

Chief Strategy Officer, Axxela Limited

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Axxela



Natural Gas and the Energy Transition



Supply-Demand (Mis)match



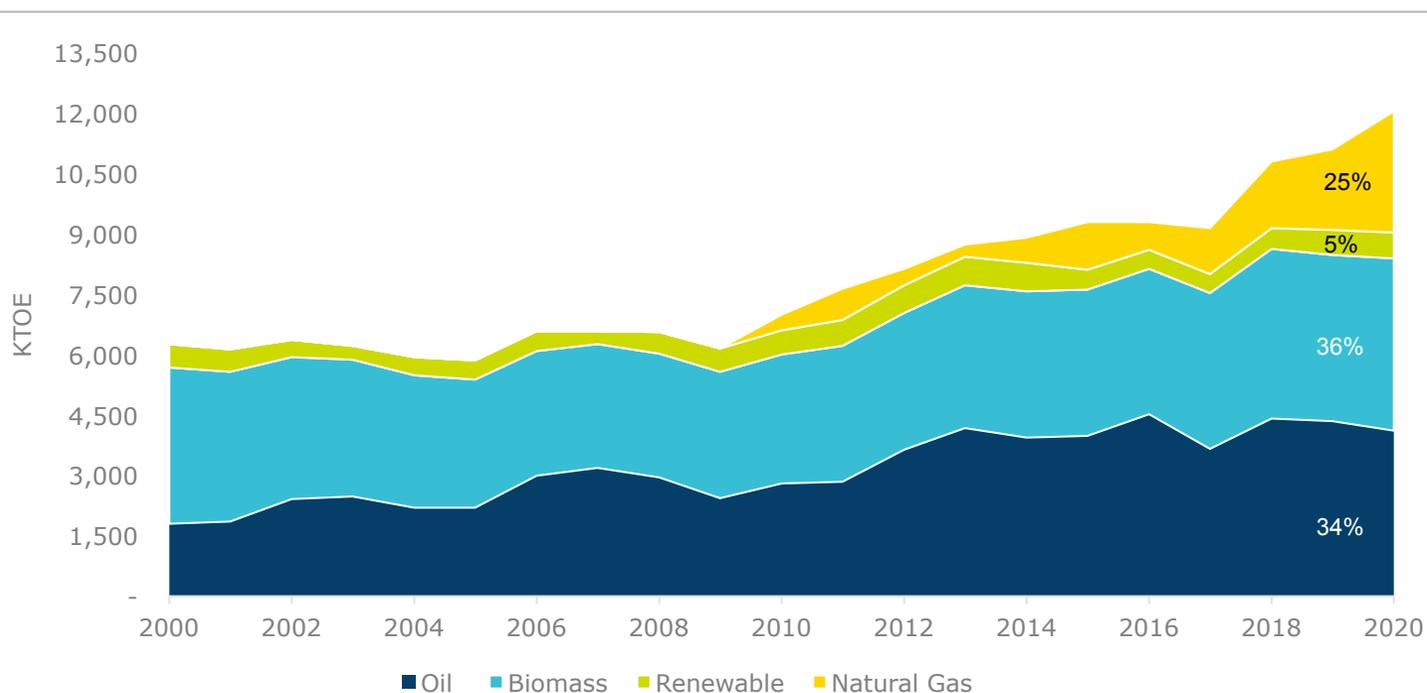
Key Considerations in Unlocking Downstream Demand



Developing Downstream Solutions – Axxela Experience

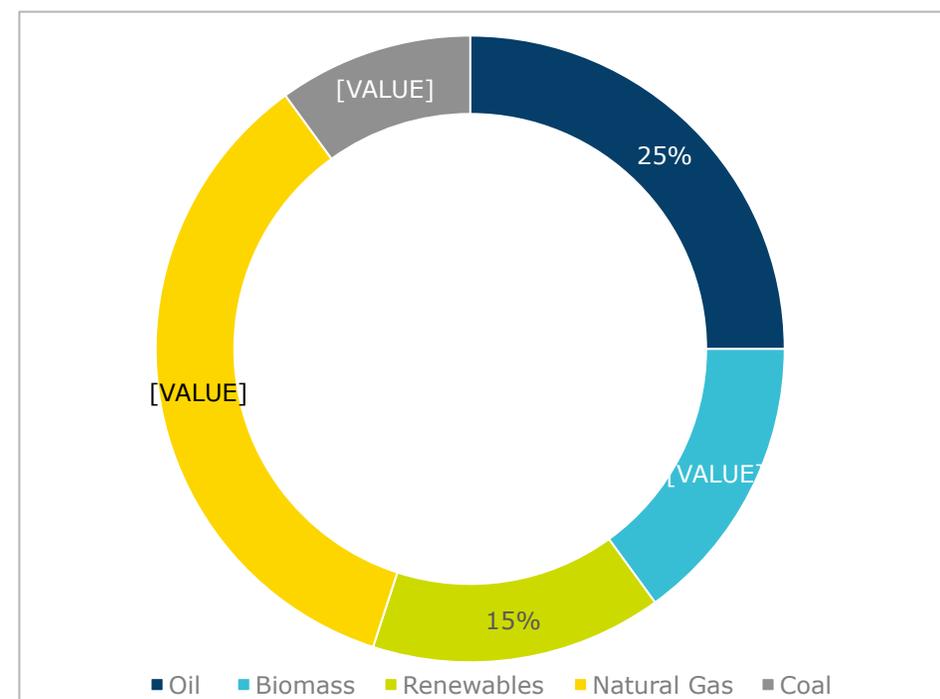
- Driven by population growth and rise in standards of living, demand for energy in Ghana has doubled in the last two decades. Historically, Ghana's energy mix has been dominated by biomass and oil. However, natural gas has made significant inroad in the past decade.
- There have been major gas discoveries in Ghana, and it is indisputable that the energy mix will need to be dominated by low-carbon sources by the end of next two decades. This bodes well for the country's push for industrial growth and improved electrification rates.
- Natural gas will be instrumental in displacing biomass and is ideal as a transition fuel as well as in dealing with the intermittency of the energy supply as the share of renewables in Ghana's energy mix increases.

Ghana - Energy Generation Mix by Source (2000 – 2020)



Source: IEA World Energy Outlook, Ministry of Energy (Ghana)

Africa - Energy Generation Mix by Source (2040)



Natural Gas Supply and Demand in Ghana (2019 – 2023)

	2019	2020	2021	2022	2023
Contracted Gas Supplies (MMscfd)	337	498	627	737	823
Total Demand (MMscfd)	255	302	338	409	448
Excess Supply (MMscfd)	82	196	289	328	375

Supply: Ghana currently sources gas via imports and domestic production.

- Gas from Nigeria through the West Africa Gas Pipeline (WAGP) and ongoing LNG projects serve as import sources to the country.
- Tema LNG and other domestic supply source(s) will increase contracted supply to 823mmscfd by 2023.

Demand: Gas demand is primarily driven by the power generation sector.

- Power consumption per capita of 534kwh/year vs. global average of 3,260kwh/year. Potential for improvement in power consumption with advancement in industrialization.
- Primary demand centres are in the Western and Eastern Regions.
- Non-power demand has not risen as fast as anticipated.

An imbalance persists... Ghana needs to create the needed demand for natural gas

- At least \$168 Mn (2019 estimate) gas supplies can be further optimized.

Key considerations:

1 Midstream and Downstream gas infrastructure development

- Development of backbone infrastructure, i.e., central processing facilities, transmission and distribution lines in under-served regions could stimulate demand for gas.
 - Axxela has built connecting infrastructure around the Escravos–Lagos Pipeline System (ELPS) to extend the natural gas advantage to underserved regions.
- Develop virtual pipeline infrastructure to reach remote areas in preparation for utilization of natural gas.
 - Axxela supplied CNG to customers in the Sagamu franchise, preparatory to the commissioning of a pipeline in that region.

2 Development and implementation of effective policies

- Update the 2016 Gas Master Plan to reflect current realities, with a transition plan to move towards market liberalization.
- Playing in the downstream gas business requires new skillsets. Local content can't be built overnight. Lessons to be learnt from the success of Nigeria's local content policy.
- Roll-out policies encouraging the adoption of natural gas and its variants to replace liquid fuels and biomass.
- Promote the establishment of gas-based industries (GBIs), ceramic and textile manufacturers to deepen natural gas utilization, and diversify the Ghanaian economy.
 - ✓ Implementation of similar schemes to the one-district, one-factory initiative.

3 Incentivize private sector investment

- Financing Ghana's gas infrastructure development requires investor-friendly policies and structuring. The capital required to develop its gas resources and infrastructure should not be the responsibility of government alone. Substantial private investment is needed to fill the gap between the government's capacity and what is required.
- This can be facilitated through cost reflective tariffs, fiscal interventions and supportive macro-economic policies.



Strategic Partnerships

Strategic partnerships with government, government parastatals/agencies, long term distribution arrangements, and strong relationship with technical partners have strengthened Axxela's position as the foremost private sector distributor of natural gas in Nigeria



Operational Excellence

Elaborate ESG systems, ISO management systems and overall corporate governance that assure operational excellence and sustainability. Axxela has recorded more than 5million LTI Free-Man Hours across all our operations



Funding

Natural gas infrastructure projects can be capital intensive.

- Axxela successfully raised ₦11.5 billion under the Axxela N50 billion bonds programme. Bond is listed on two exchange platforms (FMDQ and NSE).
- Corporate and Issuer Rating of "A"/ Stable Outlook by GCR and Augusto & Co



New Developments/Markets

Drive for industrialization of Africa has led Axxela to being designated as a member of the West African Power Pool, Shipper on WAGP and foremost developer of last mile distribution pipeline in Nigeria



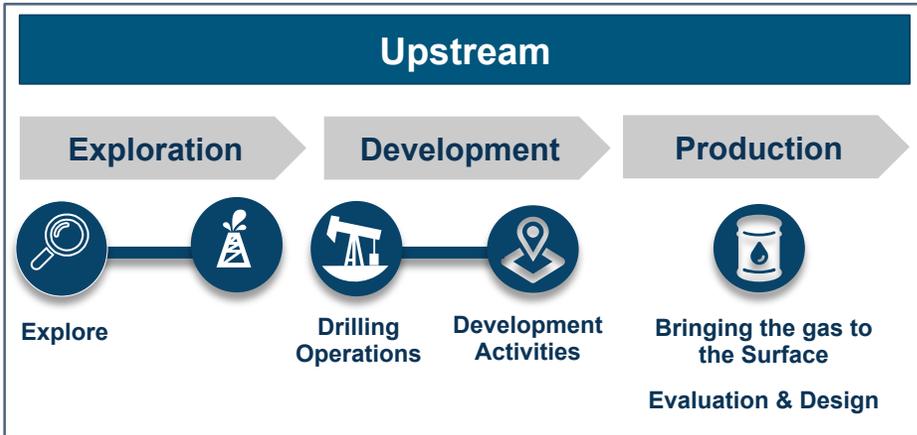
Social Impact

A strong focus on impact, through active participation in our host communities and beyond, engenders community goodwill. E.g., direct and non-direct job creation for over 60,000 individuals and over \$5 million towards education scholarships and the renovation of schools across Nigeria

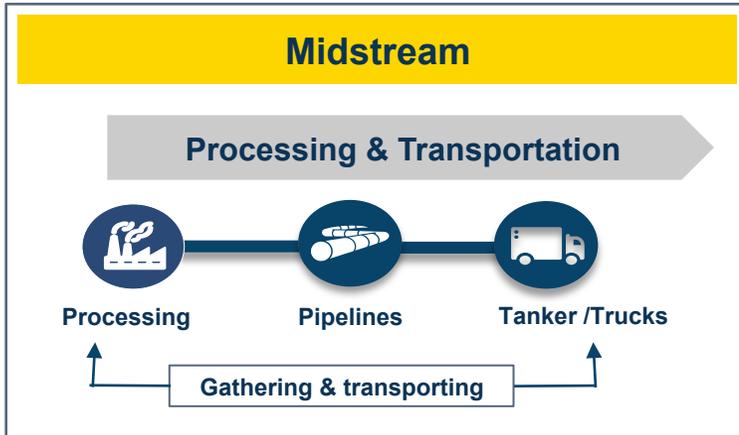


Policy Advocacy

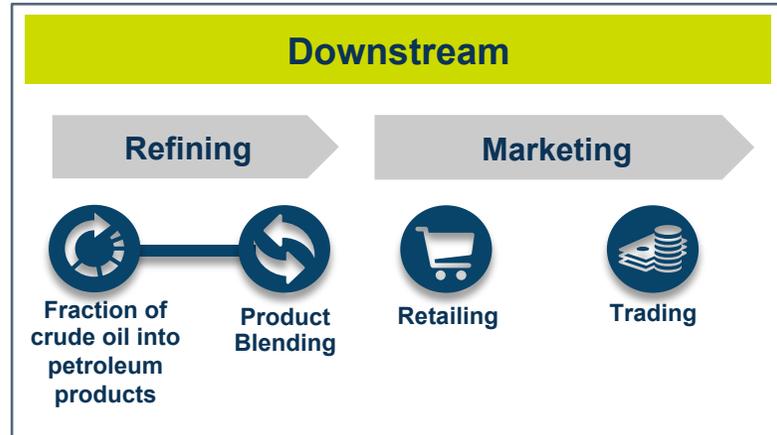
Proactive engagement and active participation in stakeholder consultative forums (through ALDG, NGA, etc.) gives us an opportunity to influence policies that affect the natural gas (distribution) sector



- Gas monetization agreements with upstream gas producers



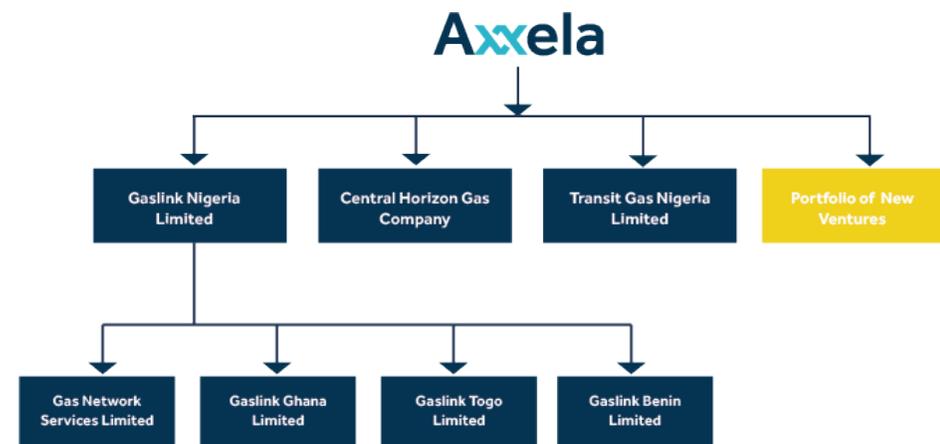
- First independent gas shipper on the West African Gas Pipeline (WAGP)
- Financed the development of a 300mscfd gas processing facility in Sapele
- Built about 84km transmission pipeline in South-East Nigeria
- Exploring opportunities to supply natural gas to other West African countries



- Built a distribution network of over 160km in the Greater Lagos Area with a capacity of c.130mmscfd
- Commissioned 16km pipeline network in Rivers State
- 18km Natural Gas Pipeline in South-West Nigeria to Rite Foods Factory in Ososa.
- Commissioned 12km pipeline to Celplas Industries FZE and other surrounding factories
- Commenced delivery of regional gas to Togo
- Commissioned 150mscm/d Compressed Natural Gas Facility
- Developing a small-scale LNG plant in Ajaokuta to supply natural gas to stranded customers

- Axxela Limited (Axxela), a Helios Investment Partners LLP company, pioneered the development of Nigeria’s foremost private sector-led natural gas distribution network and has subsequently grown to become the largest private sector gas distributor in Nigeria, delivering natural gas to over 185 industrial and commercial customers via a vast network of gas infrastructure.
- Axxela operates across the natural gas value chain and is involved in natural gas processing, transmission & distribution as well as power generation & distribution.
- The company has consistently demonstrated competitive leadership in the Nigerian energy market and has leveraged the capability of its gas grid to build independent power generation plants.
- Axxela also developed captive power solutions, providing 22.55MW to meet the energy needs of customers in Lagos State.
- With over 300km in natural gas pipeline infrastructure developed, Axxela provides unique energy solutions primarily through its subsidiaries: Gaslink Nigeria Limited (“Gaslink”), Gas Network Services Limited (“GNSL”), Central Horizon Gas Company (“CHGC”), Transit Gas Nigeria Limited (“TGNL”) and Gasmatrix.
- As a designated natural gas shipper on the West African Gas Pipeline (WAGP), Axxela is uniquely positioned to drive both Nigeria and Africa’s gas and power revolution; with further expansion of its pipeline network to increase throughput volumes and build its power business through the development of planned captive and embedded power projects.
- Axxela is a designated member of the West African Power Pool (WAPP).

Geographical Footprint

Company Structure


THANK YOU

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