Maximize Abatement of Emissions in Natural Gas Sector
(Including Refinery/Petro-Chemical Plants)

Presentation by Bayo Olarewaju–Alo
World Top 20 Gas Reserves

Reserves in Cubic Meters

Country

Reserves (EIA) in Thousands

Russia
Iran
Qatar
United States
Saudi Arabia
Turkmenistan
United Arab Emirates
Venezuela
Nigeria
China
Algeria
Iraq
Indonesia
Mozambique
Kazakhstan
Egypt
Canada
Australia
Uzbekistan
Kuwait

Thousands
African Top 10 Gas Reserves

Reserves in TcF

TcF

Nigeria
Algeria
Senegal
Mozambique
Egypt
Tanzania
Libya
Angola
Congo
Equitorial Guinea
African Context

- Accounts for less than 9% of World Gas Reserves
- Huge population, Young Demography
- Hungry for energy (low kwh per capita)
- Address Infrastructure deficit
- Grow GDP, Economy and create jobs
- Need to Monetize Natural Gas
- Address Energy Transition to CLEANER energy sources
- Play its part in addressing CLIMATE CHANGE
Abatement of Emissions in Natural Gas Sector

- Africa Needs to Develop its Natural Gas Resources to drive economic development
- Use Natural Gas to replace other conventional Energy Sources (firewood, coal, liquid fuel etc.) as part of energy transition
- MUST BE DONE RESPONSIBLY and SUSTAINABLY TOO
EMISSION SOURCES

- CO2 from Generators, Gas engines, Power Plants
- Fugitive Emissions – loss of containment, leaks, relief valves, evaporation, unintended release of hydrocarbon vapour
- Methane Emission is the greatest Green House Gas Concern in the Natural Gas Supply Chain
- Methane is 28 times More Warming than CO2
Abatement of Emissions in Natural Gas Sector

- Emission Management in Plant Life Cycle
- Minimize Methane Emissions to ALARP (As Low As Reasonably Possible)
- Emphasis on Closed Vents and Maximum Recovery
- Adherence to International Standards for Design and Equipment Selection that Emphasize Tight Methane Containment
- Review and Adopt Best Available Commercial Processing Technologies to Meet and Exceed Methane Emission Management Standards
Abatement of Emissions in Natural Gas Sector

- Plant wide Monitoring and Detection Systems that Address Fugitive Emissions & Leaks for Prompt Intervention
- Instituting a Culture of Continuous Improvement in Reducing Methane Emissions Leading to Asset Iso Certification
Abatement of Emissions in Natural Gas Sector

- New Projects (Gas. Petro-Chem & Refineries)
  - Design with ALARP Emission Mindset
  - Design review targeted at Emission Management
  - Incorporate New/Proven Technologies into new projects
  - Best Time to Incorporate Mitigation is during facility design
  - Monitoring & Continuous Improvement during Operation

- Government Regulatory Agencies to Play active role in monitoring compliance
Abatement of Emissions in Natural Gas Sector

- Existing Gas, Petro-Chem Plants & Refineries
- Develop Baseline Emission Data
- Implement Emission Abatement Strategy
- Set Targets
- Monitor Performance
- Retrofit proven technologies
- OGI – optical gas imaging
- “Method 21” using a flame ionization detector developed by US-EPA
Responsible Natural Gas Development in Africa

THANK YOU