

# Downstream Oil & Gas Operations in sub-Saharan Africa



## Mastering sub-Saharan Africa's Downstream Oil & Gas: Refining, Trading, and Market Transformation

Focus on: **The Manager** ☐ **The Specialist** ☐ **Spotlight Programme** ☒ **Hands-on Skills** ☒

### Course Overview

Africa's downstream oil and gas industry is evolving rapidly, shaped by refinery modernization, import dependence, regional integration, and LNG/GTL initiatives. This 5-day course provides a comprehensive understanding of refining, petrochemicals, marketing, trading, and risk management within the African context.

Participants will explore the technical, economic, and strategic aspects of downstream operations, with emphasis on:

- West Africa: Nigeria's Dangote Refinery, Port Harcourt rehabilitation, Tema Refinery (Ghana), SIR Abidjan.
- Central Africa: Cameroon's FLNG, Chad-Cameroon pipeline, and refinery challenges.
- Southern Africa: South Africa's petrochemical hub (Sasol), refinery closures, and regional product imports.

Through case studies, simulations, and exercises, delegates will link global downstream trends with regional realities of refining economics, fuel imports, storage, trading hubs, and risk management.

Course Objectives		This Course is Ideal For:	
1	Understand the properties of African crude oils and their refining implications.	✓	Refinery and petrochemical professionals
2	Analyze refinery operations and economics with case studies from African refineries.	✓	Corporate planners & strategists in oil and gas
3	Explore integration of refining and petrochemicals (e.g., Sasol GTL, Dangote petrochemicals).	✓	Trading, marketing, and supply chain managers
4	Examine regional supply chains, logistics, and product trading hubs (Lagos, Abidjan, Cape Town).	✓	Regulators & government officials (energy, downstream policy)
5	Apply refining margins, blending, and total barrel economics to African markets.	✓	Bankers, investors, and analysts in energy finance
6	Use risk management and hedging tools tailored for African downstream operators.	✓	Auditors, compliance officers, and contract managers



# Downstream Oil & Gas Operations in sub-Saharan Africa



## Mastering sub-Saharan Africa's Downstream Oil & Gas: Refining, Trading, and Market Transformation

Focus on: ☐ The Manager ☐ The Specialist ☒ Spotlight Programme ☒ Hands-on Skills

### Course Content

Day	Theme	Coverage
1	Refining in the African Context	<ul style="list-style-type: none"> <li>• Introduction to the downstream industry in West, Central, Southern Africa</li> <li>• Properties of key crude oils: Bonny Light, Jubilee, Dalia, Cabinda, Mossel Bay condensates</li> <li>• Refinery configurations: simple vs complex (Tema, SIR Abidjan vs Dangote)</li> <li>• Petrochemical integration (Sasol GTL, Dangote petrochemicals)</li> <li>• Case Study 1: Why most African refineries operate below 50% capacity</li> </ul>
2	Regional Oil Supply & Petroleum Economics	<ul style="list-style-type: none"> <li>• Global oil economics vs African downstream economics</li> <li>• African crude production &amp; trade flows</li> <li>• Tanker logistics: WAF (West Africa–Europe/Asia routes), Cape Town bunkering hub</li> <li>• Pricing benchmarks: Brent, WAF blend assessments (Platts/Argus)</li> <li>• Case Study 2: Nigeria's import dependence despite being Africa's top crude exporter</li> </ul>
3	Value Chain Optimization in African Downstream	<ul style="list-style-type: none"> <li>• Refinery upgrades vs fuel import strategies</li> <li>• Managing contractual &amp; environmental risks (e.g., IMO 2020, ECOWAS fuel specs)</li> <li>• Pipelines, storage, and distribution networks (e.g., Chad–Cameroon pipeline, Ghana BOST depots)</li> <li>• Refining economics &amp; margin optimization under African conditions</li> <li>• Case Study 3: Comparing Tema Refinery (Ghana) and SIR Abidjan (Côte d'Ivoire)</li> </ul>
4	Trading & Distribution in African Markets	<ul style="list-style-type: none"> <li>• African downstream market structures: state-owned vs private sector (NNPC vs Sahara, Oando, Vivo Energy)</li> <li>• Product imports &amp; blending hubs: Lagos, Abidjan, Luanda, Durban</li> <li>• Total barrel economics in African downstream context</li> <li>• Price volatility &amp; hedging practices in African trading firms</li> </ul>

# Downstream Oil & Gas Operations in sub-Saharan Africa



## Mastering sub-Saharan Africa's Downstream Oil & Gas: Refining, Trading, and Market Transformation

Focus on: **The Manager** ☐ **The Specialist** ☐ **Spotlight Programme** ☒ **Hands-on Skills** ☒

		<ul style="list-style-type: none"> <li>Case Study 4: The role of trading companies in supplying Nigeria &amp; landlocked markets (Niger, Mali, Zambia)</li> </ul>
5	Future Trends & Risk Management	 <ul style="list-style-type: none"> <li>Corporate risk management policies for downstream operators</li> <li>Hedging African exposure with futures, forwards, swaps</li> <li>Challenges: illegal fuel trade, subsidy reforms, refinery shutdowns</li> <li>New technologies: modular refineries, biofuels, solar integration in African downstream</li> <li>Case Study 5: Dangote Refinery's impact on West &amp; Central African fuel markets</li> </ul>

Course Assessment	Certification
<b>Participants will be assessed on:</b> Participation in sessions Completion of exercises & case studies Performance in assessments	Upon successful completion of the course, participants will receive a <b>Certificate of Successful Completion</b> , along with a <b>Transcript of Marks</b> showing the performance by grade in each element of assessment and overall.

Course Instructor
<p>With BSc and PhD degrees from the UK, and with over 30 years of refinery technology, operations, and management expertise for several famous-name oil companies, this speaker is now an internationally-famous chemical engineering consultant.</p> <p>As a Chartered Chemist, a Member of the Royal Society of Chemistry and a Member of the American Institute of Chemical Engineers, he holds honorary appointments at a number of European universities and conducts cutting-edge research into vacuum distillation, gas recovery, absorption and pyrolysis.</p>

