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COURSE BROCHURE

Low-Emission Hydrocarbon Production Operations Training Course

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Registered in the United Kingdom and Saudi Arabia

Low-Emission Hydrocarbon Production Operations Training Course

Low-Emission Hydrocarbon Production Operations is a 2-week training course for production engineers, operations supervisors and asset managers who prepare a Low-Emission Production Improvement Plan for a field or facility. Operators must now raise output from mature wells while cutting flaring, venting and methane leaks that investors, partners and host communities scrutinise closely. Jupiter Prime Training offers this course to specialists who balance barrels with emissions.

Why Low-Emission Hydrocarbon Production Operations Matter Now

Three forces shape production operations today. Joint venture partners and buyers ask for lower emissions intensity per barrel and evidence that methane is measured, not estimated. Ageing reservoirs need artificial lift, debottlenecking and integrity work to sustain output at acceptable cost. Digital monitoring now makes leaks and inefficiencies visible in near real time. Operators that act well extend field life and protect their licence to operate; those that do not face lost gas value, shut-in wells and reputational pressure. The course uses the Greenhouse Gas GHG Protocol for emissions accounting and recognised industry practice for flaring and methane control.

Who Gains Most from Low-Emission Hydrocarbon Production Operations

- Engineers who analyse well and reservoir deliverability and recommend interventions
- Supervisors who run separation, compression and water handling facilities day to day
- Specialists who select and optimise artificial lift systems across a well stock
- Integrity and maintenance staff who protect pipelines, vessels and rotating equipment
- Asset leads who set production targets alongside emissions and energy budgets

A field asset group gains most when its subsurface, facilities and operations members attend together and agree one set of production and emissions priorities.

Low-Emission Hydrocarbon Production Operations Capabilities

Participants connect well performance, surface processing and emissions control into one operating view of the asset.

- Assess inflow and outflow performance to identify constrained wells — intervention planning
- Specify artificial lift methods for changing reservoir conditions — well stock owners
- Calculate flaring, venting and fugitive methane volumes from field data — emissions reporting
- Design leak detection and repair routines with measurable targets — operations supervisors
- Weigh debottlenecking and gas recovery projects on output and emissions — asset leads

- Build an integrity risk register for production equipment — maintenance planners

Key Low-Emission Hydrocarbon Production Operations Terms

- Inflow performance relationship — a curve showing how a well's flow rate responds to changes in bottomhole flowing pressure.
- Artificial lift — equipment such as electric submersible pumps or gas lift that adds energy to bring fluids to surface.
- Routine flaring — burning associated gas during normal production because no facility exists to use or reinject it.
- Fugitive methane — unintended methane releases from valves, flanges, seals and other leaking components.
- Leak detection and repair — a structured survey and fix cycle that finds and closes equipment leaks.
- Emissions intensity — greenhouse gas emissions per unit of hydrocarbon produced, used to compare assets and track progress.

Low-Emission Hydrocarbon Production Operations Day by Day

Day 1: Production in a Lower-Carbon Market

- Emissions Intensity Benchmarks — Comparing Assets and Portfolios
- Production Value Chain Mapping — From Reservoir to Export Point
- Partner and Buyer Expectations — Low-Carbon Barrel Requirements
- GHG Protocol Scope 1 Sources — Combustion, Flaring, Venting, Fugitives
- Asset Baseline Survey — Output, Energy and Emissions Starting Point

Day 2: Reservoir and Well Deliverability

- Inflow Performance Relationship Curves — Diagnosing Well Potential
- Nodal Analysis — Locating Pressure Losses in the System
- Skin and Formation Damage Assessment — Stimulation Candidate Selection
- Water and Gas Coning Control — Rate Limits for Stable Production
- Well Test Interpretation — Updating Reservoir Assumptions

Day 3: Artificial Lift Selection

- Electric Submersible Pump Design — Sizing and Run-Life Drivers
- Gas Lift Optimisation — Injection Rates and Valve Spacing
- Rod and Progressing Cavity Pumps — Fit for Heavy or Low-Rate Wells
- Lift Energy Consumption — Power Demand and Emissions Trade-Offs
- Lift Selection Matrix — Matching Method to Well Conditions

Day 4: Surface Processing Facilities

- Three-Phase Separation — Residence Time and Carry-Over Control
- Produced Water Treatment — Reinjection and Disposal Options
- Gas Compression and Dehydration — Capacity and Fuel Use
- Oil Stabilisation and Storage — Tank Vapour Losses
- Facility Debottlenecking Studies — Lifting Throughput Constraints

Day 5: Flaring Reduction

- Flare Gas Measurement — Meters, Estimates and Uncertainty
- Associated Gas Utilisation Options — Power, Reinjection or Sales
- Flare Gas Recovery Units — Capturing Low-Pressure Streams
- Non-Routine Flaring Causes — Upsets, Trips and Start-Ups
- Flaring Reduction Roadmap — Prioritising Projects by Volume

Day 6: Methane Detection and Control

- Methane Source Inventory — Pneumatics, Seals, Tanks and Venting
- Optical Gas Imaging Surveys — Finding Fugitive Leaks
- Leak Detection and Repair Routines — Survey Frequency and Repair Times
- Low-Bleed Device Replacement — Removing Vented Emissions
- Measurement-Based Reporting — Moving Beyond Emission Factors

Day 7: Production Optimisation and Surveillance

- Real-Time Production Monitoring — Alarms and Exception Lists
- Integrated Asset Modelling — Linking Reservoir, Wells and Facilities
- Well Intervention Ranking — Gain per Unit of Cost and Emissions
- Energy Efficiency Audits — Turbines, Heaters and Pumps
- Production Loss Accounting — Deferred Volumes by Cause

Day 8: Integrity of Production Assets

- Corrosion Mechanisms and Monitoring — Coupons, Probes and Inspection
- Risk-Based Inspection Planning — Prioritising Vessels and Pipelines
- Rotating Equipment Reliability — Vibration and Condition Monitoring
- Process Safety Barriers — Preventing Loss of Containment
- Integrity Risk Register — Ranking Threats to Production and Emissions

Day 9: Investment Decisions and Reporting

- Marginal Abatement Cost Curves — Ranking Emission Cuts by Cost
- Project Economics With Gas Value — Recovered Gas as Revenue
- Emissions Reporting Templates — Monthly Asset Dashboards
- Contractor and Partner Alignment — Shared Operating Standards
- Lessons From Onshore and Offshore Fields — Contrasting Solutions

Day 10: Practising the Low-Emission Production Improvement Plan

- Applying Nodal Analysis Results — Selecting Priority Wells
- Applying Flaring and Methane Inventories — Choosing Abatement Projects
- Applying Abatement Cost Rankings — Sequencing Investments
- Peer Asset Review — Testing Targets and Assumptions
- Low-Emission Production Improvement Plan — Final Targets and Actions

Applying Low-Emission Hydrocarbon Production Operations After the Course

- Lead a nodal analysis review of the ten most constrained wells and rank interventions by output gain and emissions effect.
- Organise an optical gas imaging survey on one facility and launch a leak repair tracking routine.

Low-Emission Hydrocarbon Production Operations Questions FAQ

What are low-emission hydrocarbon production operations, and why do they matter now?

Low-emission hydrocarbon production operations combine well, lift and facility optimisation with flaring and methane control. They matter now because partners and buyers expect lower emissions per barrel while mature fields need more intervention to sustain output.

Which roles gain most from low-emission hydrocarbon production operations training?

Production engineers, operations supervisors, artificial lift specialists, integrity staff and asset managers gain most. You benefit if you set production targets, run facilities or are asked to report and reduce flaring, venting and fugitive methane.

How do low-emission hydrocarbon production operations differ from a carbon capture course?

Low-emission hydrocarbon production operations focus on output and emissions inside producing fields. A carbon capture course concentrates on capturing and storing carbon dioxide from large sources, while this course covers wells, lift, processing, integrity, flaring and methane.

What do you bring back from low-emission hydrocarbon production operations training?

You bring back an improvement plan that ranks wells, facilities and abatement projects by production gain and emissions reduction. You also bring back worksheets for nodal analysis, flare gas measurement and leak repair tracking.

Low-Emission Hydrocarbon Production Operations: The Way Forward

The Low-Emission Production Improvement Plan supports the first decision an asset lead faces: which wells and abatement projects receive budget this cycle. Engineers, supervisors and integrity staff use it to coordinate interventions and surveys. After the first quarter, the methane inventory and emissions intensity targets deserve another look as measured data replaces estimates.