Crude Marketing, Refining and Energy Security

GExperts Learning Academy | EX-071 | EX | 2 days

Course overview

2 days EX programme focused on Crude Marketing, Refining and Energy Security, using energy-sector cases and applied decisions.

Designed for: Learners appropriate to the stated programme level

Learning outcomes

- Explain core principles and terminology for Crude Marketing, Refining and Energy Security.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Course guide

Work through each module objective, lesson and teaching note, complete the applied activity and assessment, then use the separate Academy practice page for practice questions and answer feedback.

Separate practice questions:
https://www.globalexpertsconsultoria.com/training/academy/courses/questions/?course=EX-071

Academic and certification status

Draft learning resource for study and review. It does not confer accreditation, external certification, a regulated qualification, professional licence, safety-critical competence or site authorisation. Confirm approvals, current laws, standards, approved procedures and awarding-body requirements before delivery.

Module 1: Crude oil quality and assay interpretation

Learning objectives

- Explain crude oil quality and assay interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude oil quality and assay interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Crude properties include density, sulfur, acidity, metals, salt, water and distillation behaviour. API gravity is a density scale, not a complete quality grade. Explain how crude assay and sampling representativeness affect refinery fit and valuation.

Decision logic. A light crude can still present processing or materials challenges. Compare whole-crude properties with fraction yields and contaminants. Distinguish a laboratory result, a contractual specification and a refinery's acceptable feed envelope.

Worked example. Two hypothetical crudes have similar API gravity but very different sulfur and metals contents.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare the two fictional assays and list additional data needed for refinery selection.

Model answer guide. Include contaminant management, fraction yields, blending and sampling quality; avoid ranking by API gravity alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Compare the two fictional assays and list additional data needed for refinery selection.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 2: Refining gas processing and product markets

Learning objectives

- Explain refining gas processing and product markets, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Refining gas processing and product markets
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Refining separates crude into fractions and upgrades them to meet product needs. Distillation, conversion and treating perform different functions. Explain simple versus more complex configurations and the role of hydrogen, utilities and environmental controls.

Decision logic. A refinery investment requires feedstock security, product demand, scale, logistics, finance and regulatory feasibility. Local crude production does not by itself justify a refinery. Compare netbacks from export and processing under explicit assumptions.

Worked example. A fictional simple refinery produces fractions that do not match the domestic demand mix, requiring imports or exports anyway.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a refinery-versus-export decision matrix.

Model answer guide. Include product specifications, market size, capital, utilities, emissions, feed assurance and logistics.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Develop a refinery-versus-export decision matrix.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 3: Offtaker qualification and crude sales

Learning objectives

- Explain offtaker qualification and crude sales, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offtaker qualification and crude sales
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Offtake evaluation combines buyer identity, ownership, trading capacity, credit, compliance, logistics and contract performance. Explain nomination, measurement, quality adjustment, payment security and delivery terms. Evidence should be verified through authorised sources.

Decision logic. Score technical and commercial capability separately from mandatory compliance requirements. Consider payment timing, security enforceability and concentration risk. A letter of interest is not a binding purchase obligation. Legal and credit specialists approve actual counterparties and terms.

Worked example. An unknown buyer offers the highest price but cannot substantiate credit support or receiving capacity.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a due-diligence checklist and conditional recommendation for three fictional buyers.

Model answer guide. Reject price-only ranking and document unresolved credit and delivery risks.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a due-diligence checklist and conditional recommendation for three fictional buyers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 4: Price risk and hedging concepts

Learning objectives

- Explain price risk and hedging concepts, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Price risk and hedging concepts
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Physical sales create price exposure across production, inventory and pricing periods. Forwards, futures and options can alter that exposure but introduce basis, liquidity, counterparty and operational risk. Use paper examples only; no trading recommendation is made.

Decision logic. A hedge should match an approved objective and exposure. Overhedging can create new speculative positions. Show how volume uncertainty and benchmark mismatch leave residual risk. Explain governance, limits and independent valuation before discussing instruments.

Worked example. A fictional producer expects 100 units but produces 60 after hedging 100; 40 units of the hedge are no longer matched to output.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Map production, benchmark and timing exposures and propose governance questions.

Model answer guide. Identify volume and basis mismatch plus approval, monitoring and collateral needs.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Map production, benchmark and timing exposures and propose governance questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 5: Routes to shore and infrastructure choices

Learning objectives

- Explain routes to shore and infrastructure choices, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Routes to shore and infrastructure choices
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Compare direct offshore export, pipeline landfall, shuttle-to-terminal and domestic processing as distinct options. Oil reaching national waters does not imply physical landing or domestic refining. Geography, throughput, markets and permitting shape the choice.

Decision logic. Evaluate utilisation, distance, terrain, marine exposure, storage, product demand and lifecycle cost. Infrastructure can be shared only when commercial and technical interfaces align. Do not assert that any Namibian shore-landing route or commissioning date is confirmed.

Worked example. A low-volume early development may favour offshore export while a larger future cluster could change infrastructure economics.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write a conditional shore-routing recommendation with trigger conditions.

Model answer guide. Separate current evidence from future options; include demand, volume, cost, environment and commercial access.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Write a conditional shore-routing recommendation with trigger conditions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 6: Crude Marketing, Refining and Energy Security: Data and Performa

Learning objectives

- Explain crude marketing, refining and energy security: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude Marketing, Refining and Energy Security: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Crude Marketing, Refining and Energy Security: Data and Performance describes a practical part of Crude Marketing, Refining and Energy Security. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for crude marketing, refining and energy security: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans crude marketing, refining and energy security: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for crude marketing, refining and energy security: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for crude marketing, refining and energy security: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 7: Crude Marketing, Refining and Energy Security: Applied Case

Learning objectives

- Explain crude marketing, refining and energy security: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude Marketing, Refining and Energy Security: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Crude Marketing, Refining and Energy Security: Applied Case describes a practical part of Crude Marketing, Refining and Energy Security. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for crude marketing, refining and energy security: applied case. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans crude marketing, refining and energy security: applied case while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for crude marketing, refining and energy security: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for crude marketing, refining and energy security: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 8: Crude Marketing, Refining and Energy Security: Communication a

Learning objectives

- Explain crude marketing, refining and energy security: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude Marketing, Refining and Energy Security: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Crude Marketing, Refining and Energy Security: Communication and Escalation describes a practical part of Crude Marketing, Refining and Energy Security. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for crude marketing, refining and energy security: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans crude marketing, refining and energy security: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for crude marketing, refining and energy security: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for crude marketing, refining and energy security: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 9: Crude Marketing, Refining and Energy Security: Knowledge Check

Learning objectives

- Explain crude marketing, refining and energy security: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude Marketing, Refining and Energy Security: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Crude Marketing, Refining and Energy Security: Knowledge Check describes a practical part of Crude Marketing, Refining and Energy Security. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for crude marketing, refining and energy security: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans crude marketing, refining and energy security: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for crude marketing, refining and energy security: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for crude marketing, refining and energy security: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Module 10: Crude Marketing, Refining and Energy Security: Competence Rev

Learning objectives

- Explain crude marketing, refining and energy security: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude Marketing, Refining and Energy Security: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Crude Marketing, Refining and Energy Security

Detailed teaching notes

Teaching notes

Core explanation. Crude Marketing, Refining and Energy Security: Competence Review describes a practical part of Crude Marketing, Refining and Energy Security. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for crude marketing, refining and energy security: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans crude marketing, refining and energy security: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for crude marketing, refining and energy security: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Applied activity

Prepare a decision brief for crude marketing, refining and energy security: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice

Use the separate Academy practice questions and answer key page for this module.

Facilitator close-out and resources

Facilitator close-out

Record attendance, assessment evidence, learner support needs, incidents and improvement actions according to approved provider processes. Do not sign learners off for regulated or safety-critical work without the authorised assessment and certification route.

Resources and references

- Supplied GExperts/IUM reference materials; verify reuse rights and currentness.
- Current applicable Namibian legislation, standards and approved site procedures supplied by the provider.
- Case worksheet and instructor slides must be produced and reviewed before course release.