
Field Development Planning: Concept Selection, Wells and Economics Training Course

5 – 9 July 2027
Cape town





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Programme Summary

Field development planning is the subject of this one-week training course for asset managers, development planners and senior executives, ending in a field development decision pack for one asset. Concept selection, well numbers, facilities and spend are committed early and are costly to reverse, yet subsurface, drilling, facilities and commercial teams often work from separate assumptions. The programme links these views through well planning, cost and value tests and stage-gate review, applying each to an asset the participant knows. Mars Training Centre UK delivers this programme on field development planning to mixed-organisation cohorts.

The Business Case

Early field choices fix most of the capital, schedule and recovery profile of an asset, so weak assumptions at concept stage reappear as overruns, deferred production or stranded facilities. Where field development planning is handled discipline by discipline, trade-offs between wells, facilities and economics surface too late for sponsors to act on. Leaders who see subsurface, wells, facilities and value together can fund the right scope, defer the wrong one and explain gate decisions to partners and boards.

- Capital Efficiency: Improves as concepts are compared on cost and value before scope is fixed.
- Schedule Confidence: Improves as uncertainties are surfaced and assigned before each gate.
- Recovery and Production Profile: Is protected as well and facility choices are tested together.

Principles and Evidence Base

- Stage-gate approach: Structures the phased decisions from screening to sanction in Sessions 1 and 5.
- Time value of money: Underpins the discounted cash flow comparison of concepts in Session 4.
- Decision analysis under uncertainty: Frames the ranges, scenarios and decision trees in Sessions 2 and 4.
- Field development plan structure: The field development plan document gives the outline reviewed in Session 1 and completed in Session 5.

Intended Participants

- Asset managers who own the value case and the sanction recommendation for a field.
- Development planners who compare concepts and phase the investment.
- Senior executives who approve gates and commit capital.
- Technical leads in subsurface, drilling and facilities who must align their assumptions.
- Commercial and finance leaders who test development economics.



Typical functions include asset management, reservoir and production engineering, project services and upstream oil and gas oversight.

Learning Outcomes

1. Participants will be able to evaluate subsurface uncertainty and its effect on development options.
2. Participants will be able to construct a concept comparison that joins wells and facilities.
3. Participants will be able to diagnose weaknesses in a well count, spacing and drilling sequence.
4. Participants will be able to assess ranges for capital cost, operating cost and production profile.
5. Participants will be able to prioritise concepts on discounted value and risk.
6. Participants will be able to justify a gate recommendation to a sponsoring board.

Programme Structure

Day 1: Field Development Planning and Stage Gates

How does a field plan move from screening to sanction?

- Stage-Gate Phase Map
- Development Objectives Statement
- Field Development Plan Outline
- Decision Authority Matrix
- Asset Data Gap Register

Day 2: Subsurface Uncertainty and Resource Range

Which subsurface unknowns change the development choice?

- Static and Dynamic Model Review
- Resource Range Table
- Recovery Mechanism Screening
- Uncertainty Tornado Chart
- Reservoir Management Trigger List

Day 3: Wells and Facilities Concept Options

How do well and facility choices constrain each other?

- Well Count and Spacing Screen
- Drilling Sequence Plan
- Host Facility Option Matrix
- Tie-Back Versus Standalone Comparison
- Phased Development Staging



Day 4: Cost, Value and Risk Tests

Which concept holds up on value and risk?

- Capital and Operating Cost Ranges
- Production Profile Build
- Discounted Cash Flow Comparison
- Scenario and Decision Tree Analysis
- Risk Register Ranking

Day 5: Applying the Tools to One Asset

Do the earlier tools support a single gate recommendation?

- Applying the Session 2 Resource Range Table
- Using the Session 3 Host Facility Option Matrix
- Testing the Session 4 Discounted Cash Flow Comparison
- Rehearsing the Gate Review
- Completing the Field Development Decision Pack

Methodology

The programme uses a structured exercise method built on anonymised field data sets, cost ranges, well schedules and concept sketches drawn from oil and gas development cases. Participants work in mixed-discipline groups on a shared asset, challenge each other's assumptions and receive written facilitator feedback after each exercise. Each session closes with a gate-style review in which groups defend a recommendation.

- Suggested activity: Ranking three subsurface unknowns by their effect on the development choice.
- Suggested activity: Comparing a tie-back and a standalone host on cost and value.
- Suggested activity: Presenting a gate recommendation and answering sponsor challenges.

Capstone Output

Each participant completes a field development decision pack for one asset. It holds a resource range table, a concept option matrix, a cost and discounted cash flow comparison, a ranked risk list and a one-page gate recommendation. The pack is used at work to brief sponsors, align technical teams and prepare the next gate submission.



Frequently Asked Questions

Is field development planning suitable for leaders who are not engineers?

Yes. Field development planning assumes some experience in asset management, project or technical work and builds subsurface, wells, facilities and value reasoning step by step.

Which methods does field development planning rest on?

Field development planning rests on the stage-gate approach, the time value of money and decision analysis under uncertainty, applied to the structure of a field development plan.

How is the pack from field development planning used at work?

You use the field development decision pack to brief sponsors, align subsurface, wells and facilities teams and prepare the next gate submission.

How does field development planning differ from general upstream oil and gas training?

Field development planning centres on choosing and testing a concept for one asset, while general upstream training surveys wells, reserves and the industry as a whole.