Valuing Mineral Extraction Companies

Available as an in-house course

Course Overview:

This course will introduce participants to what makes mineral extraction companies different, and to ways of assessing their performance and valuation.

Definitions of reserves, industry specific accounting, and the application of both absolute and relative valuation techniques will be discussed.

Where necessary, distinctions will also be drawn between the oil and gas industry and the mining industry. The course requires a basic understanding of accounting and participants will need to bring a calculator in order to complete the exercises.

Participants are required to bring a scientific calculator to the course.

Course Content:

Economic background to mineral extraction companies

- The markets for oil and gas, metals and other minerals: how big are they, what drives them, and how do they work?
- Commodity markets, and trading instruments: physical volumes, forward contracts, futures contracts and swaps
- Interpretation of forward price curves: what do backwardation and contango tell us?
- The differences between oil and minerals: OPEC, distribution of reserves, substitutability and re-cycling

Participants interpret a forward price curve

What makes mineral extraction companies different?

- Economic versus geological constraints to reserves: how recovery factors are dependent on prices and costs
- Definition of commercial, contingent and potential reserves: bankable projects, out-of-the-money assets, and exploration upside
- Probability distributions: proven, probable and possible oil reserves, and measured versus inferred mineral reserves
- How to interpret oil and gas, and mineral company, reserve reports, and the main accounting differences between countries and between oil and mining companies
- How to measure reserve replacement: volume and cost effectiveness
- Accounting for exploration and measurement of exploration and development costs, and assessment of corporate performance

Participants analyse the reserve statements for an oil and gas company, and a mining company, and analyse corporate performance

Valuing mineral reserves

- Tax regimes: royalty and tax versus oil Production Sharing Contracts (PSCs)
- Building Discounted Cash Flow (DCF) models of individual assets, and corporate valuation based on liquidation models
- Going concern models of mineral extractions companies and the problem of appropriate terminal values
- Valuing technical reserves and exploration opportunities: real options theory and probability trees
- Enterprise value to equity value: getting from a value of the assets to the value of the equity

Participants complete a model of an oil PSC and interpret its contribution to consolidated accounts and to a company valuation, and discuss a model of a mining company

Comparable companies analysis applied to mineral extraction

- Relative versus absolute value: when and why to apply multiples analysis
- Valuation measures for mineral extraction companies: why the emphasis on cash flow over profit? Why net of tax cash flow rather than Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA)?
- Which metric? Value related to reserves, production life, cash flow per unit produced, exploration upside
- Application of multiples for new issues, stock selection and mergers and acquisitions: when and how to apply which measure, and methods of interpretation

Participants complete and interpret a comparable companies analysis for a cohort of mineral extraction companies