

International Construction Consulting

Project Financial and Economic Modeling

Overview

Models developed by International Construction Consulting, LLC (ICC) seek to address investment and divestiture portfolios as required, which may be made up of numerous business segment and project level investment decisions. To fund the best investment opportunities and weigh individual elements in a portfolio appropriately, a consistent approach to evaluating investment decisions is required. ICC models pay careful attention to the principles of investment analysis.

ICC's investment, economic, and financial analysis models incorporate methodologies, processes, and tools that drive the decisions required to execute strategies aligned with achieving defined business objectives.

The financial and economic models are designed to provide the rationale to adequately answer four fundamental questions:

1. Why should the proposed investment be made – how does it align with the strategy and competitively support achieving key business objectives?
2. Why invest now versus later – is this the right time in the market or business cycle?
3. Why invest in this manner – considering capital efficiency and risk?
4. Why is the proposed alternative the best method for achieving the business objective?

ICC has developed a variety of financial and economic project evaluation models for LNG, crude, gas, and NGL's. Representative models include:

- **ICC Pipeline Project Evaluation Model_v1**
 - Evaluates a major pipeline project development, including: CAPEX; OPEX; cost of debt service; interest; depreciation; revenue build; return calculations; pay-out time frame; waterfall; etc.
- **ICC Crude Project Development Model_v3**
 - Evaluates a crude development project under a variety of fiscal regimes and royalty rates; cost recovery; profit sharing; bonus structure; project financing.
- **ICC Joint Venture Fund Economics_v1**
 - Assesses the value of a joint venture fund, including Limited and General Partnership commitments; organization expenses; reserves; first draws; secondary allocations.
- **ICC LNG Project Assessment Model_v2**
 - Evaluates the profitability of an LNG project considering reserve holdings; exploration costs; CAPEX/OPEX; depreciation; decommissioning; fiscal regimes; royalties; taxes; profits.

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- **ICC Associated Gas Utilization Model_v2**
 - Evaluates the utilization of associated gas from an existing crude production field; analyzes the viability of use of associated gas use versus flaring; financial analysis of four scenarios.
- **ICC Midstream Project Evaluation Model_v9**
 - Appraises the value created in a midstream venture based on CAPEX/OPEX; volume forecasting; transportation/gathering/processing service fees (including sliding fees); waterfall for payouts; multiple of money. Streams include Crude, Gas, Produced Water, and NGL's.
- **ICC Upstream_Midstream Integrated Project Evaluation Model_v2**
 - Screening model for the viability of a major upstream development project, considering drilling & exploration; CAPEX/OPEX; midstream service costs; production forecasts.
- **ICC Oil & Gas Company_Net Asset Value_v1**
 - Evaluates how an oil & gas company's overall assets perform; cash flow development from producing assets; credit facility financing; exploration costs of potential oil fields; reserves; additions & acquisitions; sensitivity analysis for pricing and WACC; typically uses P50 for conservatism; sensitivities for P10 and P90.

In addition, the following models have been developed for production volume forecasting (for crude, gas, NGL's and water), economics by individual wells, economics by multiple wells, and OPEX models.

- **ICC Crude_Gas_Water_NGL Volume Model_v10**
 - Model develops production forecasts of crude, gas, produced water, and NGL's based on various fields and associated reservoirs drilled within each field; utilizes producer type curves or calculates type curves; calculates total well inventory available based on acreage; sensitivities based on drilling schedule and 3rd party volumes.
- **ICC Economic & Cash Flow Analysis_Wells_v3**
 - Calculates well economics, including payout period; IRR; based on CAPEX; OPEX; OH; G&A; Escalation & Discount Factor; Pricing; Working Interest; Net Revenue Interest; Royalty; Tax Rates (Severance & Ad Valorem).

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- **ICC Economics by Type Curve Model_v1**
 - Economic evaluations of various area and formation productions based on provided or calculated type curves; IRR; crude, gas, and NGL.
- **ICC OPEX Cost Model_v2**
 - Develops Operational Expenses (OPEX) costs based on a proposed system, including crude, gas, produced water handling, and NGL's; includes fixed and variable costs; electricity.
- **ICC Midstream Gas Gathering & Processing Model**
 - Provides economics for gas gathering, processing, and compression; calculates fee or POP; sensitivities analysis for volumes; CAPEX/OPEX; contract recovery calculations.

Evaluation models have also been developed for specific contractual arrangements in the Midstream sector such as Percentage of Proceeds (POP) and Percentage of Volume (POV). Representative models that have been developed include:

- **ICC Economics Model Based on POP_v1**
 - Develops economics for a midstream venture that is operating under a Percentage of Proceeds (POP) contract; fees; POP proceeds to producer.
- **ICC Economics Model Based on POV_v1**
 - Develops economics for a midstream gas venture that is operating under a Percentage of Volume (POV) contract; fees; POV proceeds to producer.

ICC can provide investment analysis, which marries the fundamentals of decision analysis, economic and financial theory, technical understanding, and strategic planning. All disciplines must be addressed in order to have robust and reliable investment analysis resulting in high-quality decisions.