

# **Primer: The Law, Science and Finance of International Energy Projects Part 6: International Energy Project Economics**



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**The opinions contained in the presentations  
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## Primer Outline

1. Introduction
2. Energy, Geology and Geophysics: Conventional (Potter)
3. Petroleum Engineering: Conventional (Troutman)
4. Unconventional Hydrocarbon Resources (Potter & Troutman)
5. Host Country Instruments (HCI's) (Wagner) (LUNCH)
6. International Energy Project Economics (Troutman)
7. Co-Venture Formation and Agreements (Wagner)
8. Co-Venture Economics: The Power of Leverage (Troutman)
9. Co-Venture Operations (Wagner)
10. Summary and Q&A (Troutman, Potter and Wagner)

## Key Takeways

### ■ Capital Requirements are substantial

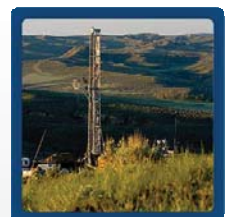
- Complex technology
- Long lead times (5 to 10 years)
- Substantial capital (typically millions to billions of \$\$)

### ■ Financial Investments must compete (Portfolio)

- Must deliver shareholder return
- Weigh financial risk to reward
  - *Economically quantify the opportunity*
  - *Understand country fiscal regimes*

### ■ Risk assessment critical

- Above ground risk
  - *Political Stability*
  - *Contractual (or Fiscal) Stability*
  - *Operational (or Security) manageable*
- Subsurface risk (geologic)



# Why do an economic evaluation?

## ■ A tool for management to assess the attractiveness of a project

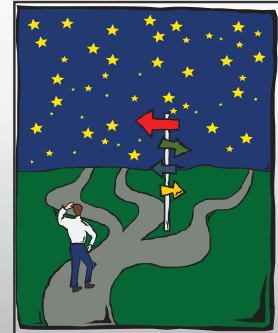
- Maximize Return on each dollar invested.
- Achieve Corporate Goals.
- Maximize Stockholder Value.

## ■ Only one of the tools used to select from investment alternatives

- Above Ground Risk
- Strategic Fit
- People & Capital Resources Required

*If you come to a fork in the road, take it!*

Yogi Berra



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# Economic Tools

## ■ Discounted Cash Flow Analysis used to compare opportunities

- Time value of money (a \$ today better than a \$ tomorrow)
- Forecast cost
- Forecast revenue
- Estimate risk



## ■ Main Measurements of Economic Attractiveness

- Materiality - Cash returned minus the investment required (*net expected value*)
- Capital Efficiency – Cash Returned for each dollar invested (*profit/investment*)
- Timing – How quickly an investment is recovered (*rate-of-return*)

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Title search: International Energy Project Economics

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