

Deconstructing Project Risks

The New Reality of Risk-Sharing to Create Competitive Advantage

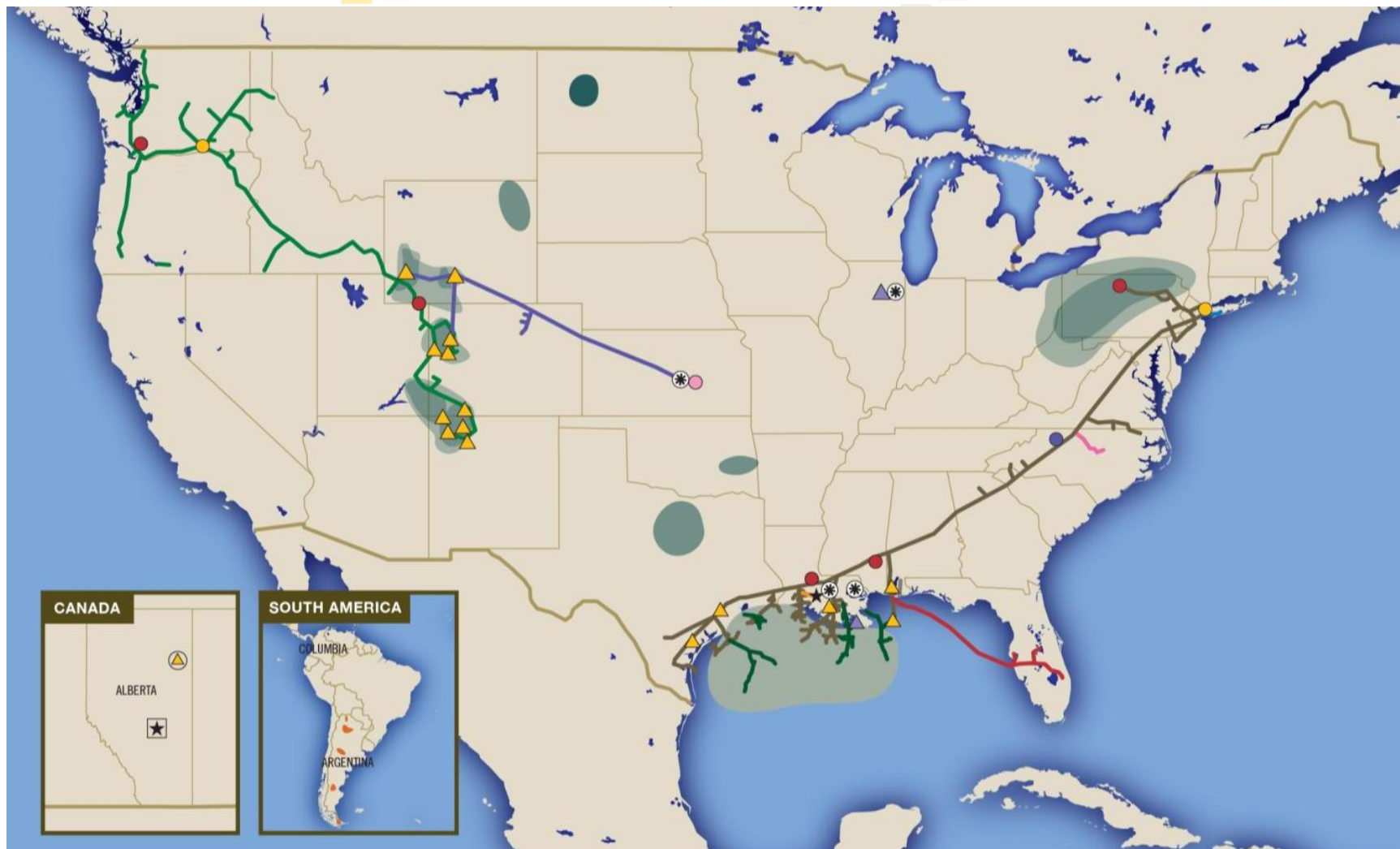
Alan Armstrong
President and CEO, Williams

Rice Global E&C Forum
October 4, 2011

Earlier in our 103-year history

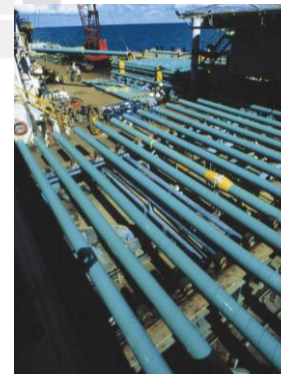


\$25 billion in energy assets, reserves



>\$10 billion in projects in last 3 yrs

Williams
Ingenuity takes energy.®



Infrastructure opportunities abound; billions in capital flowing to projects



> Shale-energy revolution

- Gas pipelines
- NGL pipelines
- Gas-processing facilities
- NGL fractionation
- Export facilities
- NGL storage
- Water treatment plants

> Natural gas-fired power generation

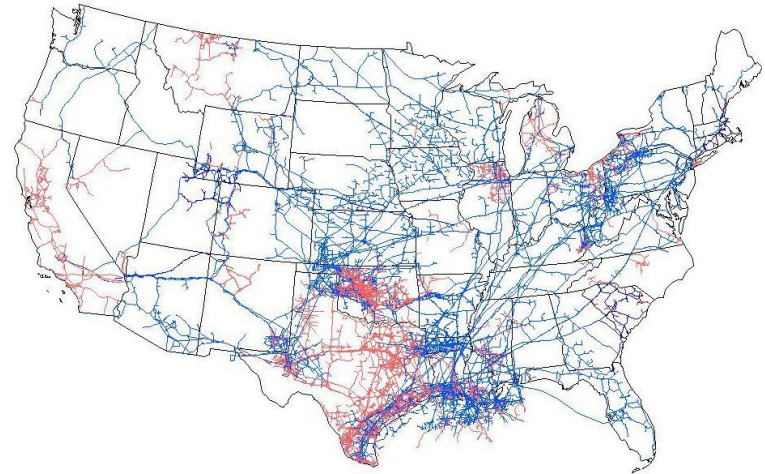
> Large industrials

> Petrochemical renaissance in North America

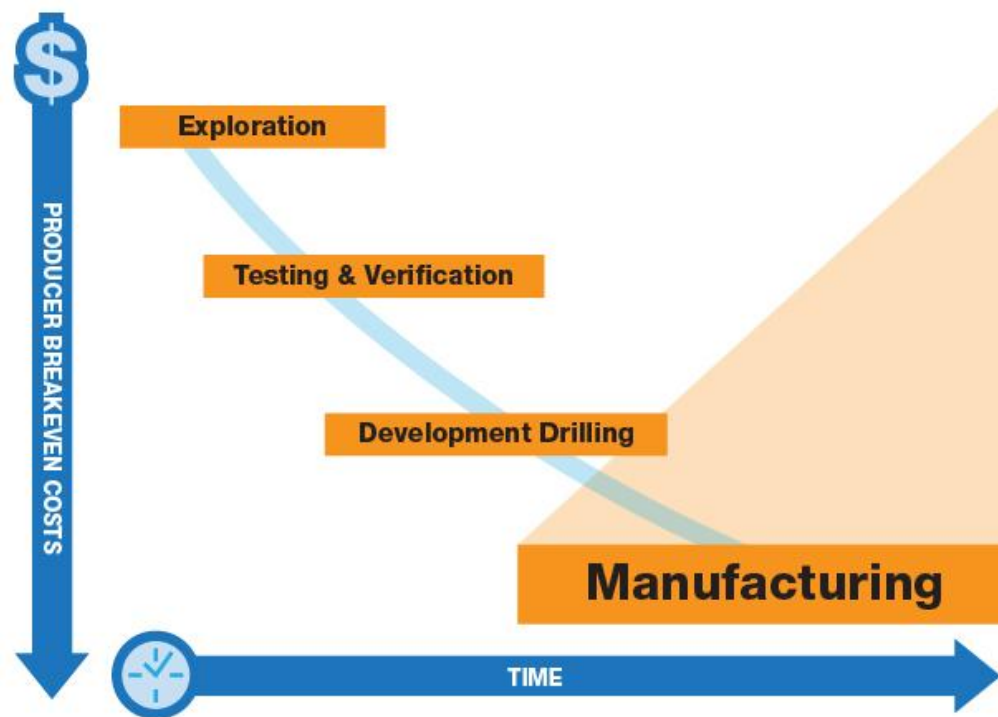
- Fueled by U.S. shale-gas revolution
- Vast, long-lived feedstock that provides ~3x cost advantage over crude oil
- Follow-on manufacturing

> Canadian oil sands development

> Deepwater Gulf of Mexico development



Massive infrastructure opportunities still to come from shale gas



Shale Development Model

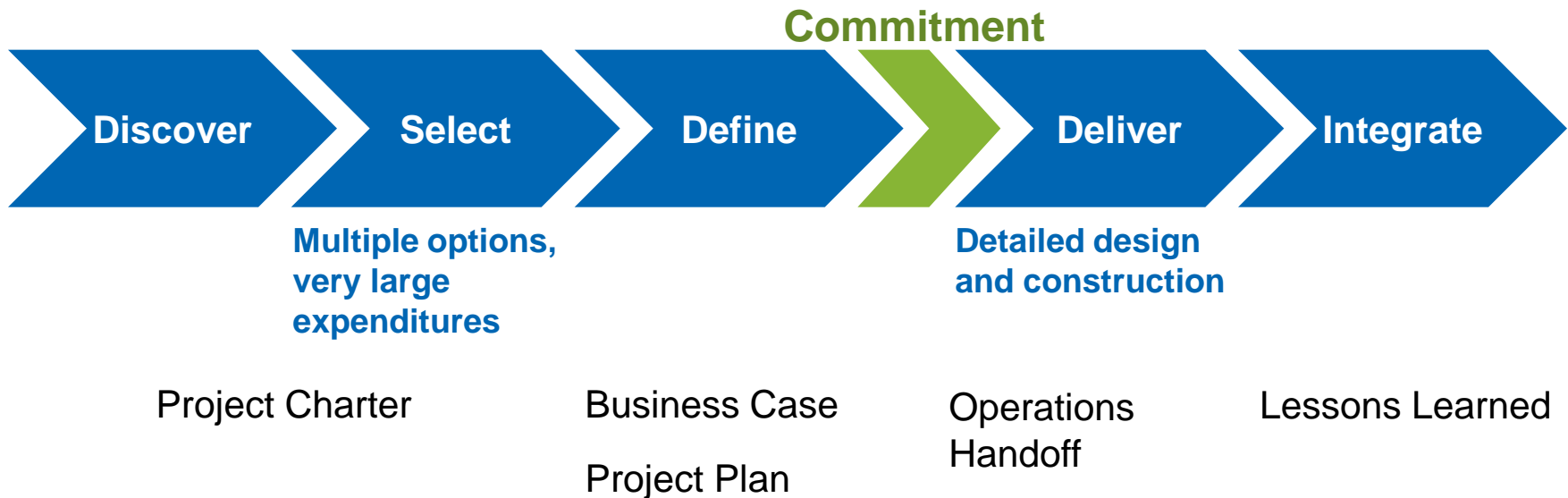
NGL Processing to Ethane

- Large-scale facilities with pipeline access to markets
- Long-term contracts support capital investments
- For producers, liquids create major economic uplift and lower net cost of production
- Global market dynamics drive advantage
- Shale gas revolution = U.S. petrochemical renaissance

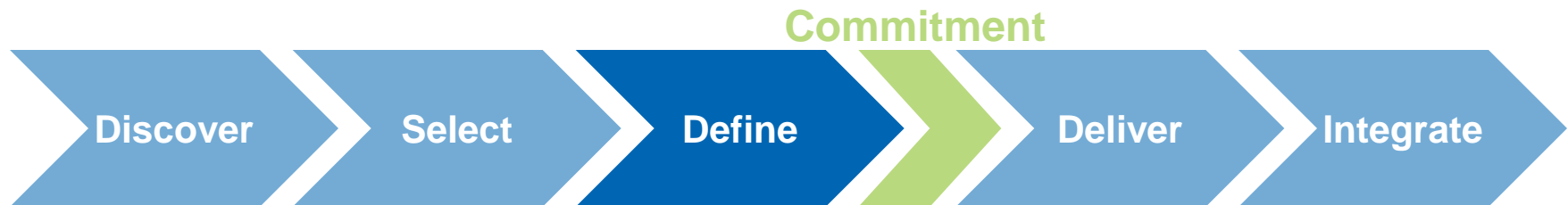
Infrastructure – idea to in-service



Project Lifecycle



Defining the project – looking at risk



Project Plan

- Estimate
- Baseline schedule
- Work breakdown structure
- Detailed scope of work
- Risk register/mitigation plan
- Contracting plan
- Progress control plan
- System Integrity Program requirements

Business Case

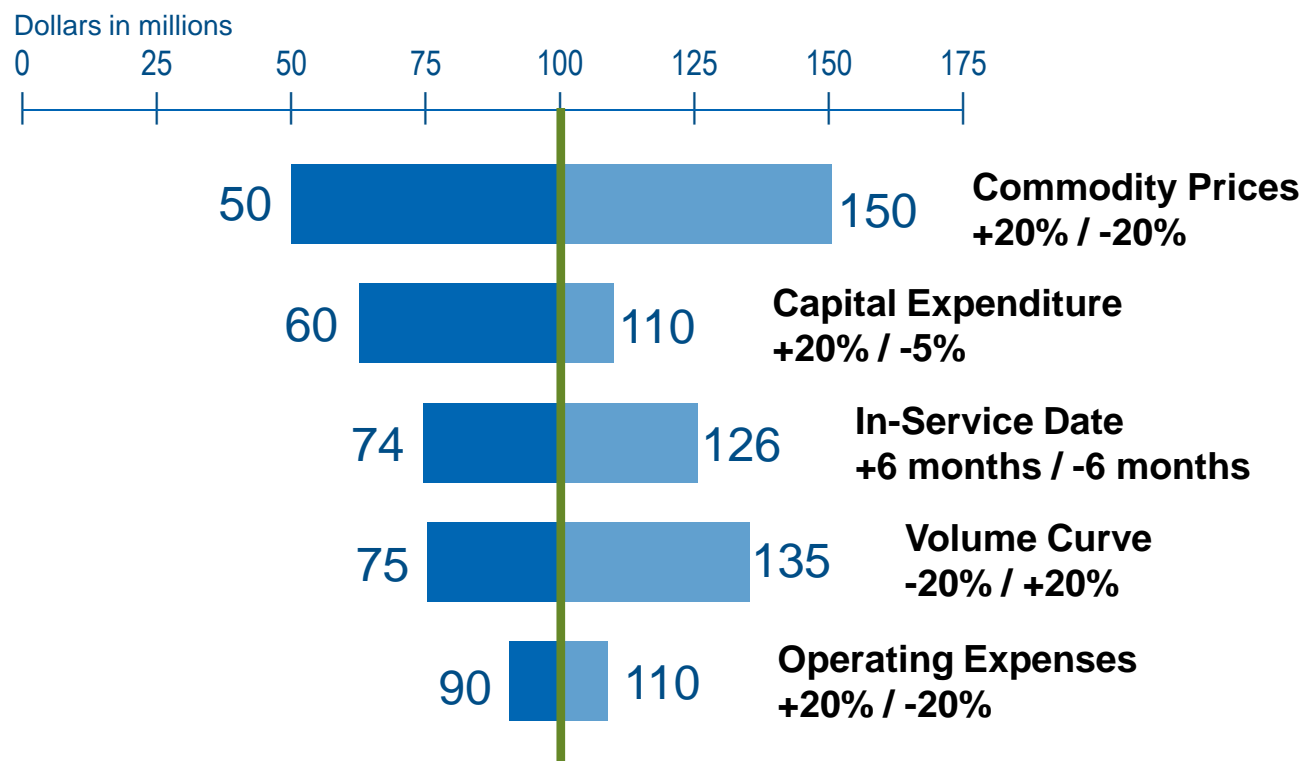
- Strategic alignment
- Commercial deal structure
- Agreements
- Key success factors
- Timing of expenditures
- Financing assumptions
- Major risks
- Major assumptions
- Economics
- Greenhouse gas implications

Supports executive management and board of directors review and approvals for commitment to invest capital

Analyzing financial risk

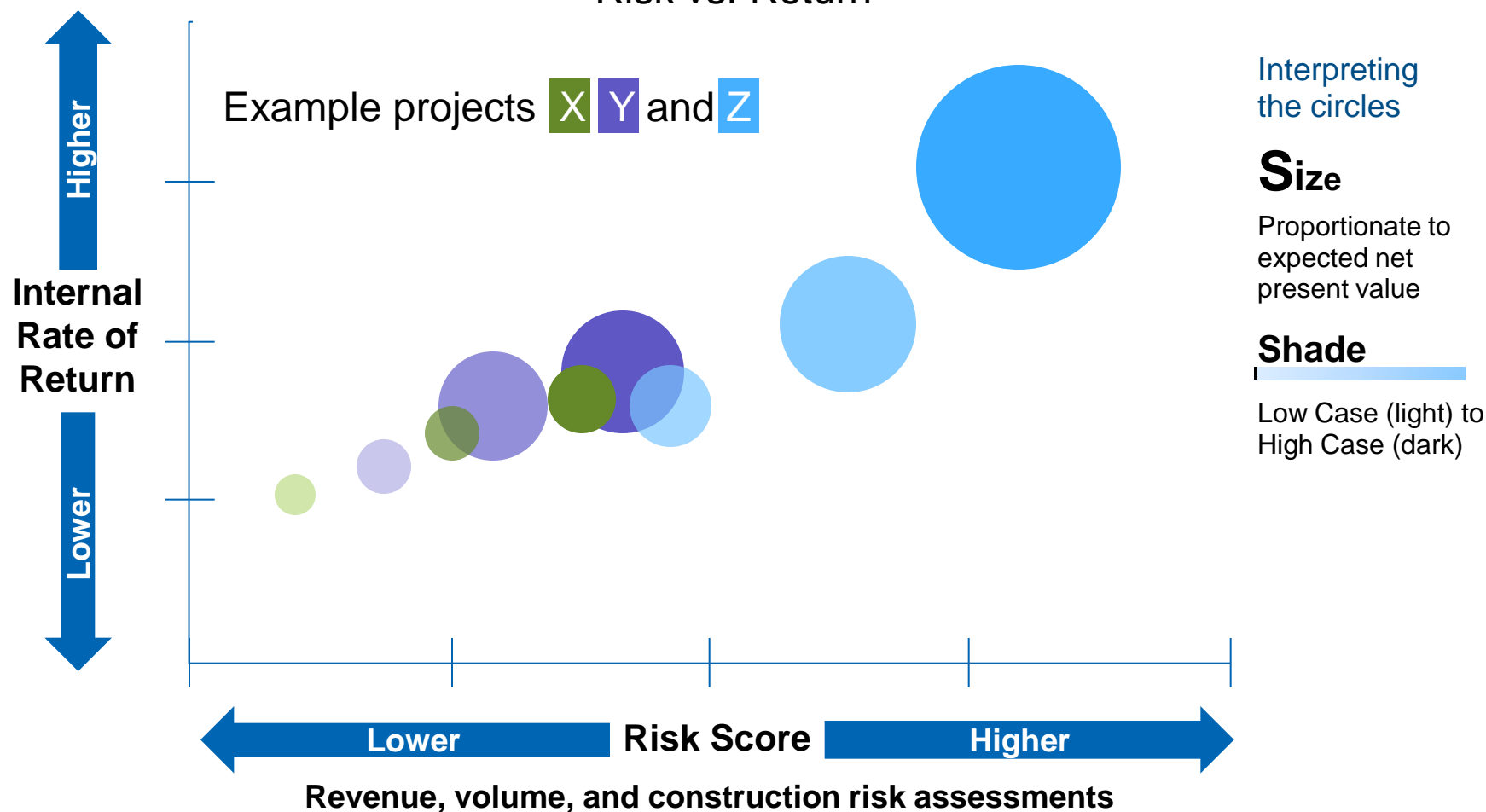
- Example Project -

\$200 Million Capital Expenditure
Generating \$100 Million of Net Present Value at Expected Case



Comparing investment options

Risk vs. Return



E&C can be part of risk mitigation, value opportunity – and path to commitment



- Example Project -

Capital Project Business Case

Confidential

The current market situation is one where time is of the essence. From a market perspective, there are significant advantages to being one of the earlier expansions in place. Additionally, we have a turnaround scheduled [REDACTED]. This will require a 50-day outage of the plant. At current profitability levels, a month of plant downtime costs us operating profit of [REDACTED] million. Thus, we have a large incentive to tie much of the work to our turnaround schedule. Due to these timing constraints, the best way to accomplish the timing goals are to utilize a single source firm for design and construction to ensure maximum use of the time available. To break the project into smaller sections and bid it out would add four to six months to the schedule. The potential savings from a longer bidding process would likely not rise to the same levels as lost profits for the delay. The estimated cost of a four to six month delay is [REDACTED] in lost operating profit. As an example, a 10% reduction in labor rates by bidding out the expansion project would save only [REDACTED]. Additionally, delaying the turnaround to meet the added four to six month timeline may put current operations at a higher risk level by exceeding [REDACTED] year period between turnarounds.

time is of the essence

large incentive

timing constraints

timing goals

single source

maximum use of time available

delay

lost operating profit

current operations

Timing, capital and market risk

- Example Project -

Strategy-aligned bidding and contracting strategy

Months in cycle eliminated



$$\begin{array}{l} \text{Incremental} \\ \text{operating} \\ \text{profit} \end{array} = \$ \quad + \quad \begin{array}{l} \text{In service} \\ \text{months/years} \\ \text{ahead of} \end{array} >80\%$$

equal to
13%
of total
project cost

of other capacity
additions

Complexity also creates opportunities for competitive differentiation



Permitting

Complex

Public

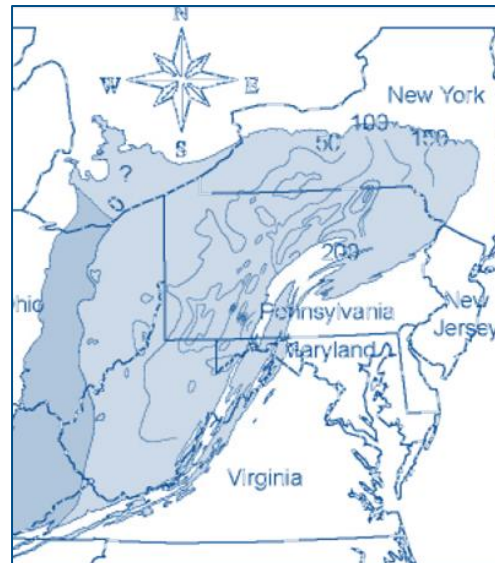
Multi-layered

- Federal
- State
- Agency by agency
- Town by town

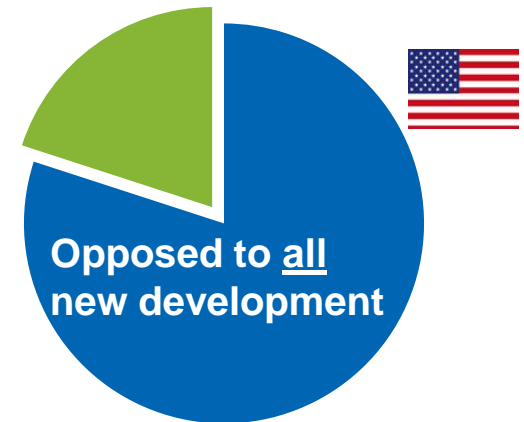
Contentious

Crucial to schedule

Marcellus Shale NE U.S.



People in the U.S.



Source: 2011 Saint Index

Evolving view of E&C risk – opportunity for differentiation

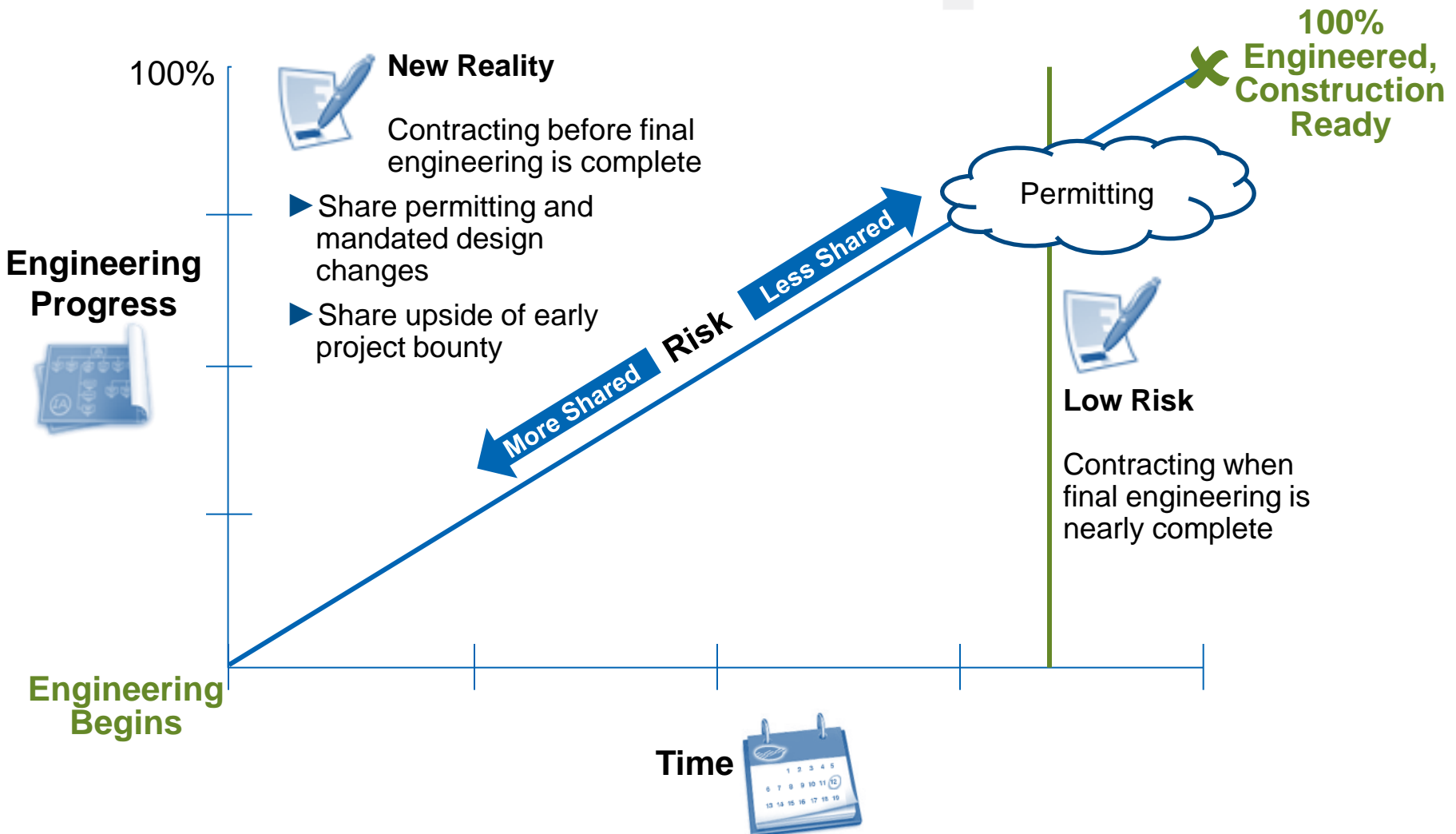


Table stakes and value-adds



- > Safety
- > Expertise
- > Relationship
- > Size
- > Reputation – yours and the protecting of ours
- > Relevant experience
- > Flexibility
- > Creativity

The new reality – here today



Understanding, sharing risk creates real opportunities for differentiation and competitive advantage

Opportunity set: Massive, long-lived infrastructure build-outs in the U.S. related to newly economic domestic energy

Flexibility, agility and partnering relationships will win the day