

HB 3001

SB 3001

6/10/08

SPECIAL

SESSION

DOCUMENTS

Alaska Gasline Inducement Act Legislative License Hearings

Juneau, Alaska

June 6-10, 2008

Analysis of Project Costs/Schedule and Tariffs

AGIA Analysis Technical Team

Bill Sparger
Energy Project Consultants, LLC

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Westney Consulting Group, Inc

Cost and Schedule Analysis

- General analysis methodology
- Base case specific analysis methodology
- Base case cost/schedule results
- Expansion cases specific analysis methodology
- Expansion cases cost/schedule results

Why Cost/Schedule Ranges?

- Single point estimates for large complex projects may not be the most useful to evaluate future project outcomes
- Understanding and applying the ranges in which the costs and schedule durations are likely to fall will result in a more representative analysis of the economic expectations for a project

General Analysis Approach

- Analyze cost and schedule on a sub-project level
- Based on 2007 dollars (removes uncertain cost escalation risk from the base analysis and)
- Cost escalation is applied later in the NPV analysis as a sensitivity

Project Risk Indicative Modeling (PRIMS)TM Methodology

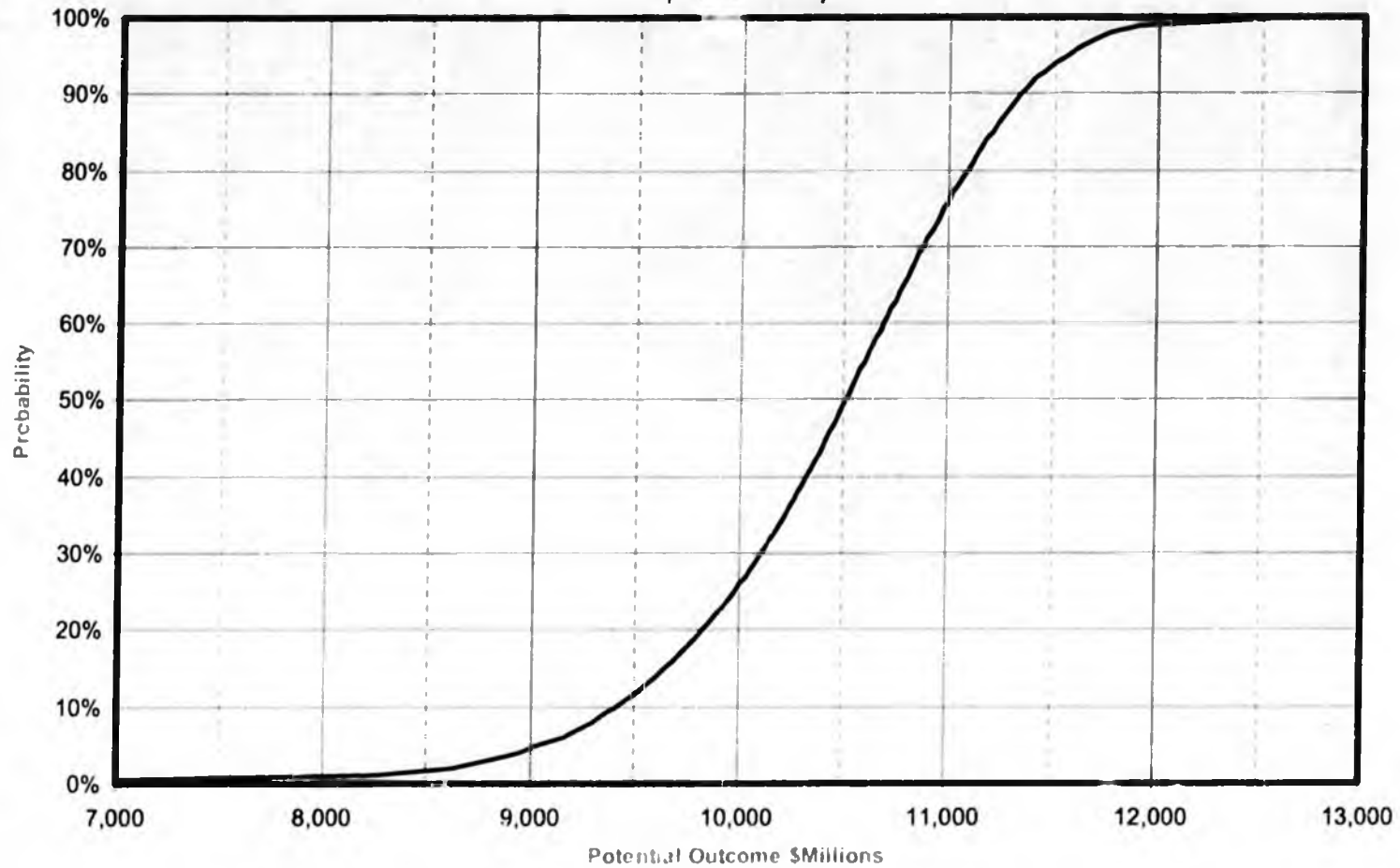
- Understand risks associated with project
- Apply expert judgment to establish:
 - Best and Worst case ranges
 - Distributions that reflects risks
- Perform Monte Carlo simulation, which is a well proven and long accepted method
- Provide cost and time-risk probability distributions for NPV analysis

DRAFT: Work-In-Progress

AGIA Example

Cost-Risk Profile

Pipe Example



4.5 bcf/d Base Case - Technical Team Input

Cost

- Development
- GTP
- Alaska Pipeline
- Canadian Pipeline
- Integrated Project
- Miscellaneous

Schedule

- Subprojects
- Integrated Project

Spend Curves (cash flow)

Costs/Schedule Analysis

Costs

- Started with review of TransCanada cost breakdown by subproject
- Prepared independent cost estimates using same subproject breakdown
- Established best/worse case ranges
- Established other Miscellaneous Costs

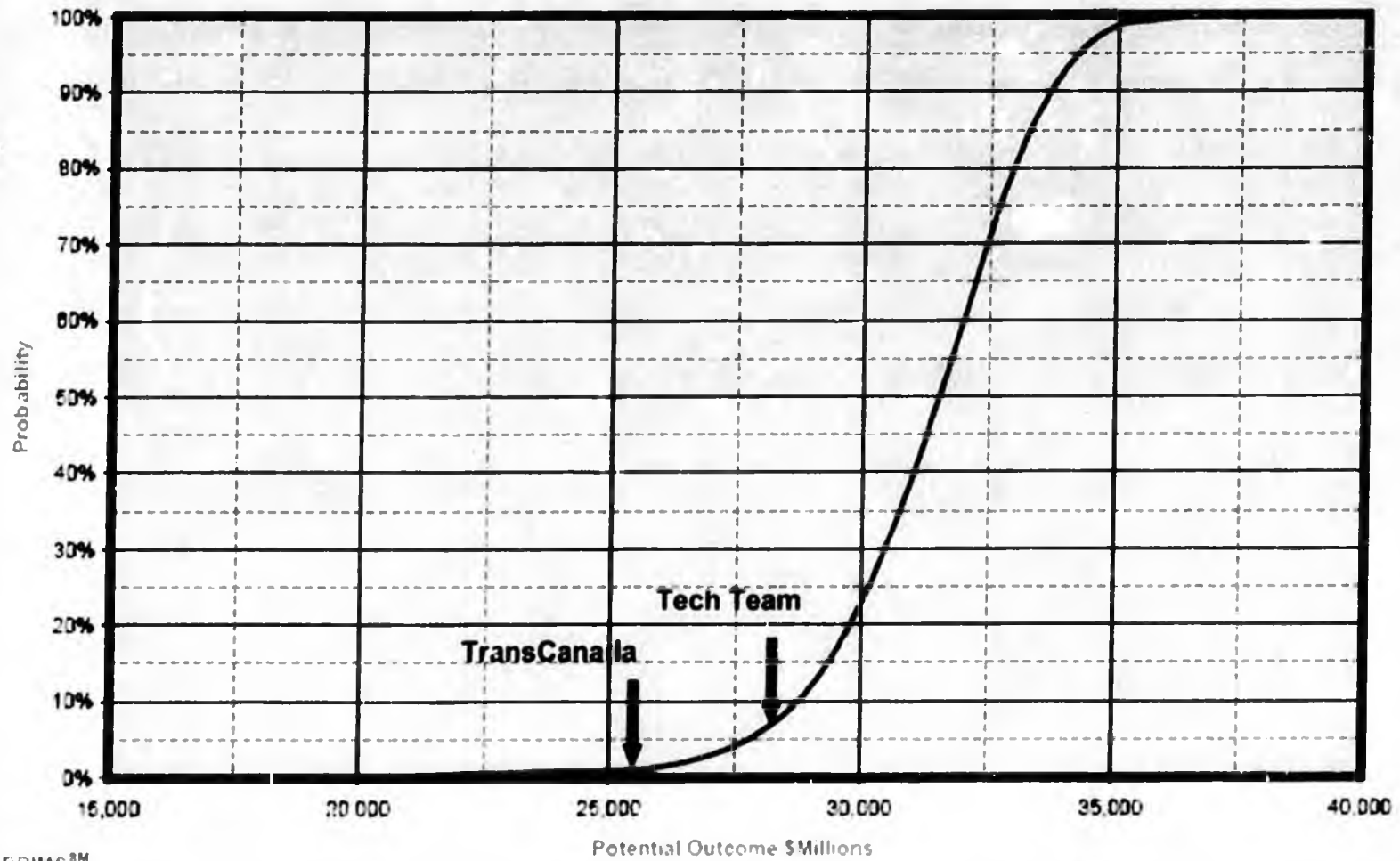
Costs/Schedule Analysis

Schedule

- Started with review of TransCanada schedule by subproject
- Prepared independent schedule and activity logic
- Established final schedule for ranging
- Established best/worse case schedule activity durations

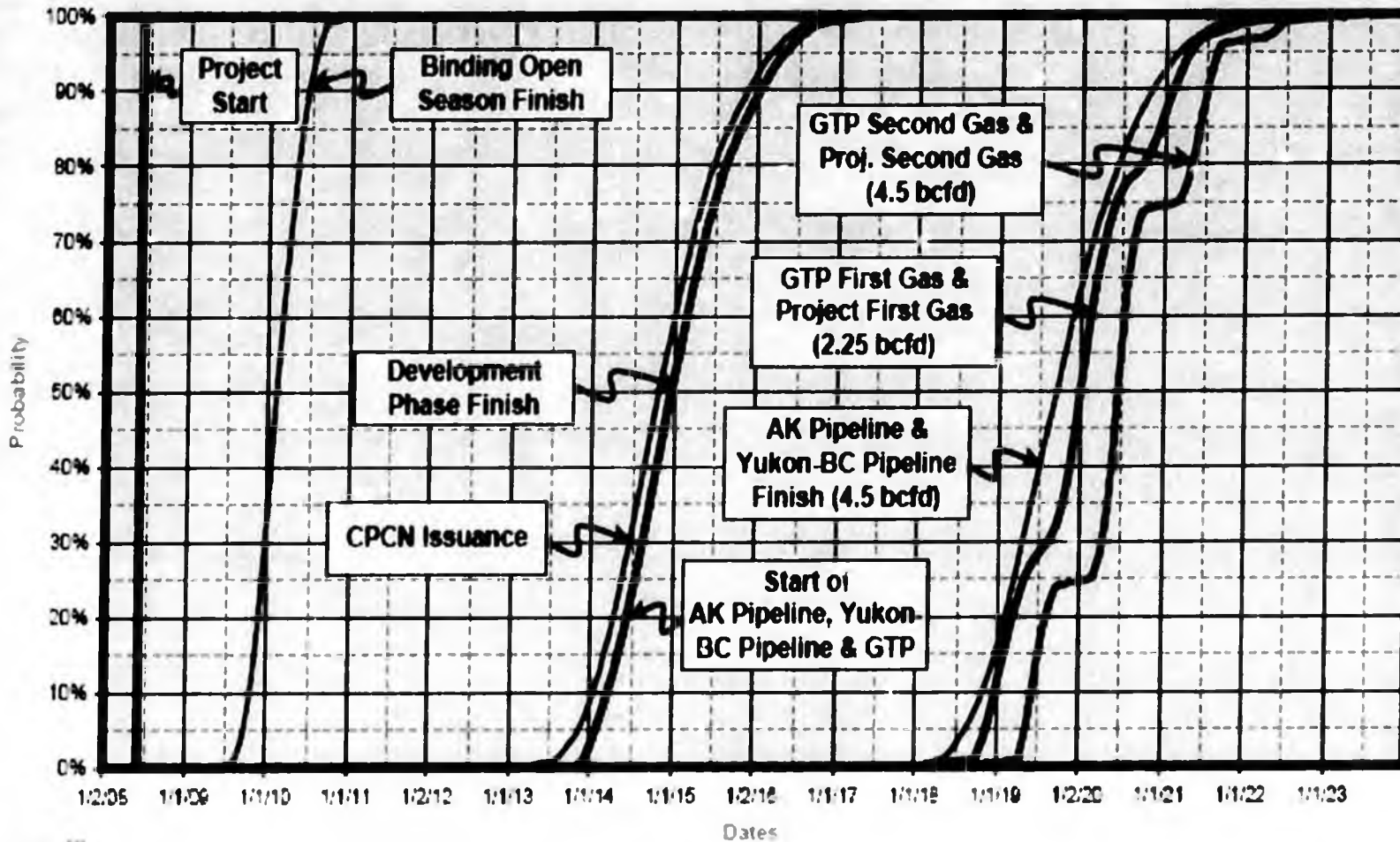
AGIA TransCanada Application - Base Case

Cost-Risk Profile for Base Case: 4.50 bcfd
Integrated Project



AGIA TransCanada Application - Base Case

Time-Risk Model Profile for **Base Case: 4.50 bcfd** (Base Case)
Integrated Project



Miscellaneous Costs

- Line Pack
- Fuel
- Operations and Maintenance (O&M)
- Cost escalation
- Spend Curves (cash flow)

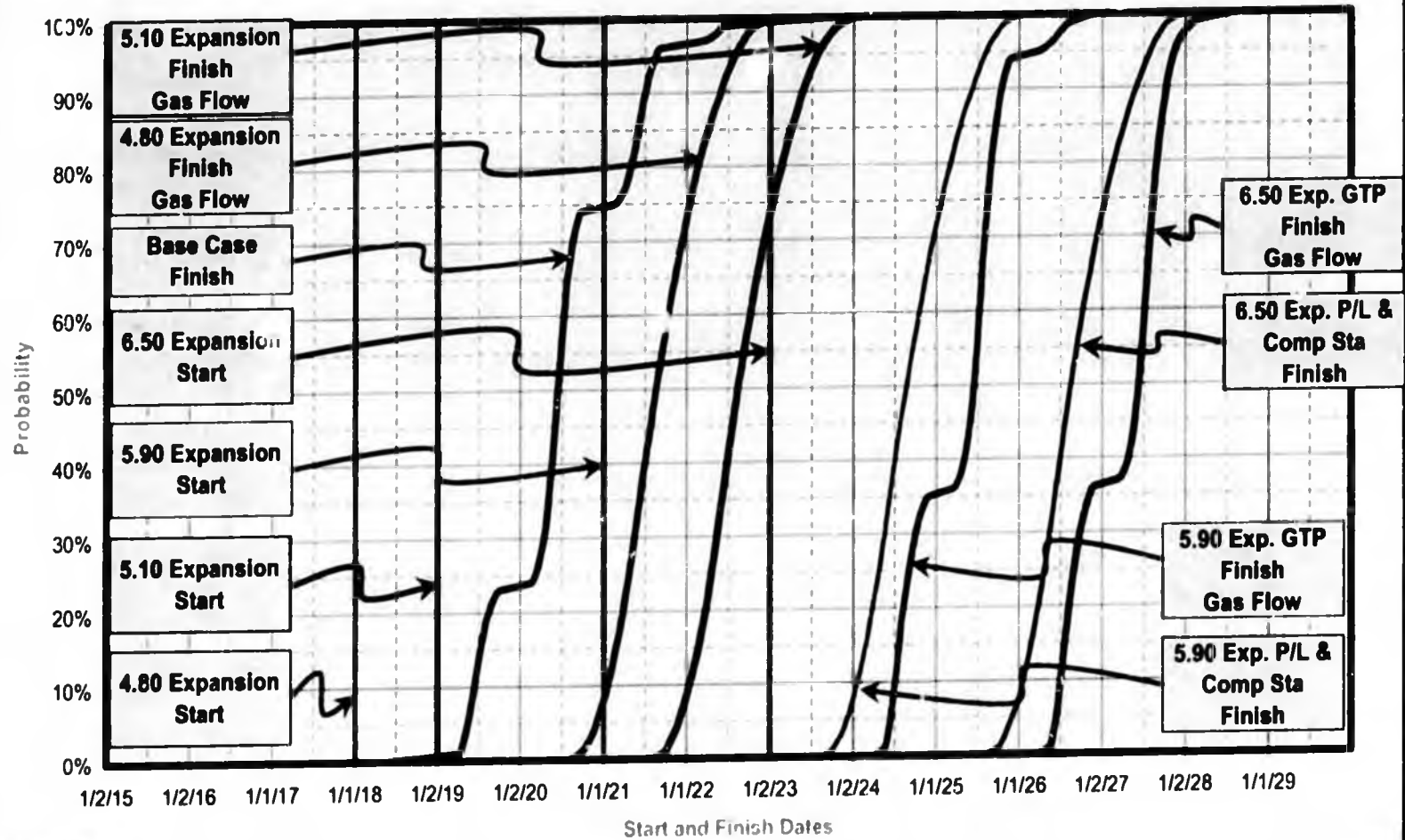
Expansion Cases

- TC Alaska has committed to a project design that will accommodate volumes between 3.5 and 6.5 bcf/d by using only incremental compression for expansion
“Simple-Low Cost-Fast”
- Base Case 4.5 bcf/d
- Expansion Cases
 - 4.7 bcf/d
 - 4.8 bcf/d
 - 5.1 bcf/d
 - 5.9 bcf/d
 - 6.5 bcf/d

AGIA TransCanada Application - Expansion Cases

Time-Risk Model F. ofile for Expansion

All Expansion Projects



Expansion

The Bottom Line

- Simple
- Low Cost
- Fast



Financial Review of TransCanada and Proposal

June 10, 2008



Discussion Topics

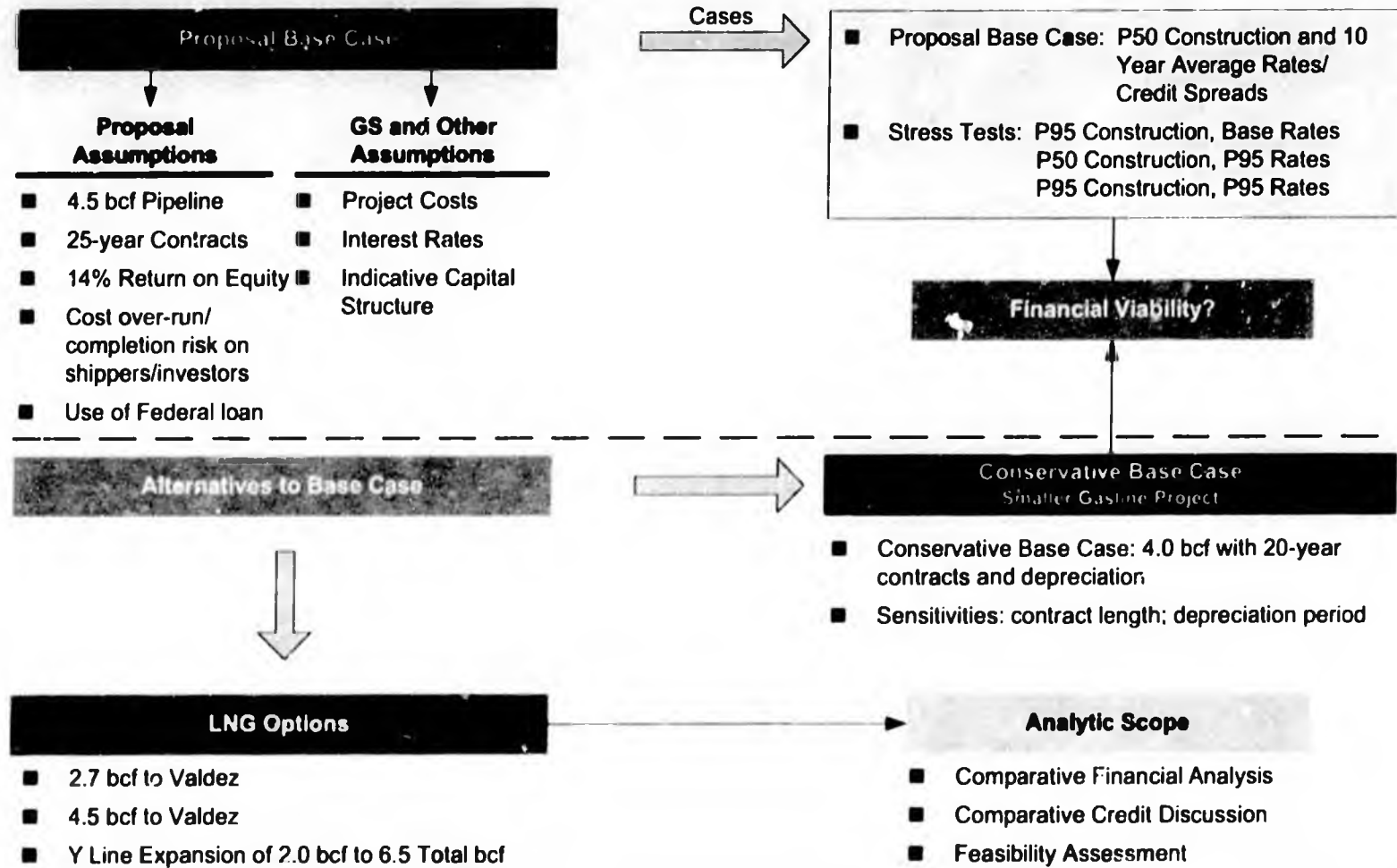
- Key Findings
- Financial Strength of TransCanada
- Financing Review of Proposal

Summary of Findings

Is the Proposal Base Case Viable from a financing standpoint?

- Goldman Sachs believes that the Proposal Base Case is financeable based on the following:
 - Strength of project sponsor
 - Strength of prospective shippers
 - Proposal assumptions regarding contracts and cost over-run surcharge
 - Federal loan guarantee and cost over-run facility
 - Financial
 - Strong debt service coverage
 - Attractive equity returns
 - Favorable relationship between gas price forecasts and tariff
 - Ongoing considerations
 - Obtaining shipper commitments
 - Obtaining federal loan guarantee commitments
 - Develop strong overall credit package
 - Strong project finance market
-

Cases Analyzed



Summary of Findings

Does TransCanada Have the Financial Strength to Meet its AGIA Obligations?

- Goldman Sachs believes the TransCanada has the financial strength to meet its AGIA obligations
 - TransCanada has very stable, durable, and free cash flow generative businesses;
 - TransCanada generates substantial free cash flow at the corporate level that should enable the Company to debt-finance the majority of its equity contribution;
 - TransCanada's business and financial risk profiles substantially improve if the Project is completed;
 - Rating agency concerns about additional capital calls on TransCanada during construction likely would be alleviated by the cost overrun facility;
 - If capital calls are required because costs escalate, TransCanada should have the ability to contribute additional capital (if needed);
 - If TransCanada finances its capital contribution to the pipeline entirely with debt, ratings downgrades are possible (all else being equal) but maintenance of investment-grade ratings is expected; and
 - Maintenance of current ratings is possible if TransCanada takes actions to fortify its financial strength in anticipation of the project and ensures the agencies view the pipeline as having a high probability of success.
-

Financial Strength of TransCanada

How Will the Markets Assess TransCanada's Financial Strength?

- Lenders, ratings analysts, and investors will review:
 - TransCanada's existing financial and business profile
 - What can go wrong with the Project and within TransCanada's core businesses?
 - How will TransCanada finance their equity contribution?
 - Will TransCanada be required to make additional capital contributions if the pipeline project experiences delays or cost overruns?
 - Should analysis consolidate or not consolidate the project debt onto TransCanada's books?
 - Would TransCanada ever really "walk away" either during construction or after operations commence?
 - Overall Credit Assessment: Rate to the trough (i.e., the point in time during construction when financial pressure is highest), likely post-construction profile, or somewhere in between?
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Key Rating Agency Commentary Regarding TransCanada

Moody's

Senior Unsecured Rating Outlook **A2¹**
Review (Downgrade)

Key Strengths

- Predominately low risk, regulated gas pipeline operations with clear focus on gas transmission and power businesses
- Strong competitive position driven by importance of TransCanada's Canadian pipelines in transporting gas out of the WCSB
- TCPL's electricity generation assets tend to be characterized by either low marginal cost of production or long-term power purchase agreements with highly rated counterparties
- Stable and predictable free cash flow generation

Key Weaknesses

- Weak financial profile for the rating category – high leverage driven by deemed capital structure allowed on Canadian regulated pipelines and mitigated by generally more supportive regulatory and business environments in Canada
- Long-term declining WCSB production leads to increasing supply risk (may be offset by non-conventional production)
- Increasing exposure to power and unregulated businesses that may necessitate lower corporate leverage to offset a rise in business risk
- Growing portfolio of projects exposes the company to increasing levels of execution risk including allocation of management resources, management of construction cost and schedule risks and financing risk

Standard & Poor's

Senior Unsecured Rating Outlook **A-**
Stable

Key Strengths

- Business profile is "excellent" driven by predictable earnings from TCPL's mature, wholly-owned Canadian and US natural gas transmission systems which are supported by transparent regulation
- Strong competitive position driven by importance of Canadian pipelines in transporting gas out of the WCSB
- Investments in other pipeline operations provide a stabilizing offset to gradually declining earnings from traditional pipelines
- Consistent free cash flow generation remains a fundamental Company strength and provides a buffer against cost overruns and other project setbacks

Key Weaknesses

- Somewhat high leverage levels although credit ratios remain acceptable for its ratings
- Increasing earnings volatility as TCPL purchases power for resale into primarily unregulated markets (somewhat mitigated by forward sales contracts)
- Declining rate base (related to maturity of gas production in western Canada) and ROE (due to linkage to interest rates) has reduced earnings in recent years
- Near-term cost and operating uncertainty related to Bruce A Restart

¹ Moody's has assigned an A2 corporate rating to TransCanada PipeLines Ltd., which is an operating company and intermediate holding company of TransCanada Corp. The A3 rating on TransCanada Corp. reflects the effect of structural subordination of TransCanada Corp. to debt at TransCanada PipeLines.

Current Moody's and S&P Ratings for TransCanada Comparables¹

	TransCanada	Enbridge	MidAmerican Energy Holdings	Spectra Energy	Kinder Morgan Energy Partners
Corporate Ratings	A3/A-	Baa1/A-	Baa1/A-	Baa1/BBB+	Baa2/BBB
Outlook	Negative/Stable	Stable/Stable	Stable/Stable	Stable/Stable	Stable/Stable
Assets (\$ millions)	\$30,717	\$20,161	\$39,216	\$22,970	\$15,178
Revenues	8,941	12,072	12,376	4,742	9,218
EBITDA	3,888	1,768	3,838	1,965	1,732
Net Income	1,239	716	1,189	957	590
Debt/EBITDA ²	4.0x	6.0x	5.2x	4.8x	4.1x
Debt/Cap ²	59%	64%	67%	55%	61%
EBIT/Interest ³	2.7x	2.1x	2.1x	2.3x	3.0x
RCF/Debt	14%	9%	12%	12%	4%

¹ Credit statistics as of 12/31/07 from Capital IQ.

² Lower is better

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TransCanada and its Comparables Have Accessed the Financial Markets in Good and Troubled Times

TransCanada's Recent Issues

- **2008** - \$1.1 billion in common shares
- **2007** - \$1.725 billion in common shares and \$600 million in common units; \$2.6 billion of long term debt and \$1 billion of junior subordinated notes
- **2006** - \$700 million of medium-term notes and \$500 million of senior unsecured notes
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MidAmerican

- **2008** - \$650 million of senior unsecured notes
- **2007** - \$600 million of long-term debt
- **2006** - \$1.7 billion of senior unsecured notes and \$350 million of long-term debt
- **2002** - \$700 million of senior notes

Spectra

- **2007** - \$450 million of senior unsecured notes

Kinder Morgan

- **2008** - \$290 million of ordinary shares
- **2007** - \$300 million of LP common units and \$300 million of common shares
- **2006** - \$250 million of LP common units
- **2005** - \$75 million in common shares and \$380 million of LP common units

Enbridge

- **2007** - \$800 million of notes and \$450 million of common shares
- **2002** - \$150 million of common shares
- **2000** - \$100 million of common shares

TransCanada Could Employ a Range of Alternatives to Fund its AGIA Obligations

- Goldman Sachs Analyzed Four Alternative Approaches for TransCanada to Absorb Project Costs
 - **Case 1 – “Base Case”**: Assumes that the costs related to TransCanada are equal to its equity investment only and are being financed 100% with debt. The equity method of consolidation accounting is used (i.e., revenues, costs, assets, debt, and cash flows at the Alaska pipeline level are not consolidated; only net income available to TransCanada is consolidated) and cash payments to TransCanada are equal to the amount distributed to equity holders and is recorded as other income.
 - **Case 2 – “Fully Loaded”**: Assumes that TransCanada fully consolidates the project and all costs are on its balance sheet, financed 100% with debt. All income and expenses of the project are recorded on TransCanada’s financial statements.
 - **Case 3 – “50% JV Sell Down”**: Assumes TransCanada splits 50% of the project with a third party and proportional accounting is used. As such, 50% of the project’s income and expenses are recorded on TransCanada’s financial statements.
 - **Case 4 – “Base with 25% Stock Financing”**: Uses the same methodology as Case 1, only instead of funding the costs with 100% debt, 25% of its capital commitment to the pipeline during years 2014-2017 are being financed through common equity issuance.
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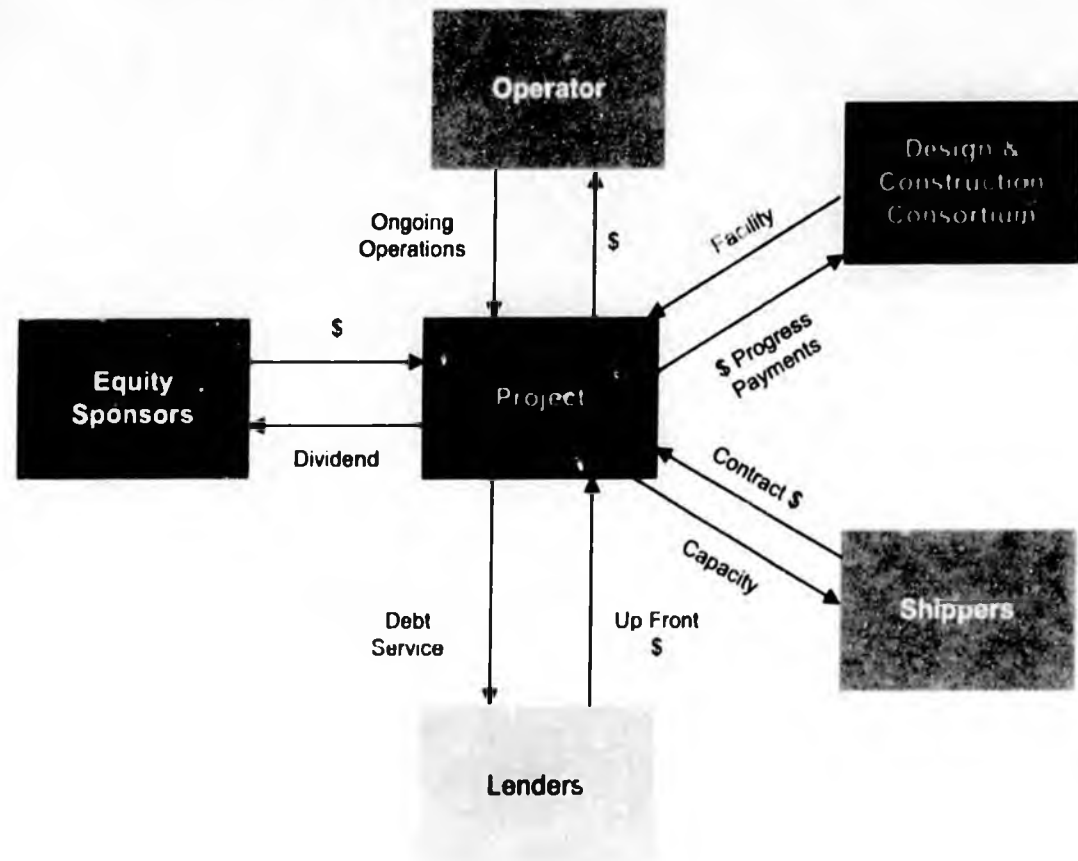
Financing Review of Proposal

Project Finance Loans are Based on a Complex Set of Contractual Arrangements

In a project financing, the lender's source of repayment is limited to project revenues and assets.

Lenders will:

- Take limited completion risk – construction risk typically mitigated through EPC contracts and/or a combination of pre-completion guarantees or cost overrun protection facilities;
- Want to insure that all funding needs are provided for
- Assess operating risk as part of the overall project – seek protections from revenue interruption





Project Financings are Common in the Energy and Oil & Gas Sectors

Borrower Name	Project Name	Amount (\$Mm)	Country	Sector	Financial Close
Emirates Aluminum - EMAL	Abu Dhabi Aluminum Smelter	\$7,050	United Arab Emirates	Processing Plant	12-Dec-2007
Qatar Liquefied Gas Co Ltd (Qatargas) IV	Qatargas 4	5,714	Qatar	Oil Refinery /LNG and LPG Plants	30-Jul-2007
Fujian Refining & Petrochemical Co Ltd - FREP	Fujian Refining and Ethylene Joint Venture Project	5,600	China	Petrochem/ Chemical Plant	6-Sep-2007
Qatalum	Qatar Aluminum Plant	4,739	Qatar	Processing Plant	23-Aug-2007
Red de Carreteras de Occidente	FARAC Toll Road PPP	4,280	Mexico	Road	27-Sep-2007
Ambatovy Minerals SA	Ambatovy Nickel Project	3,700	Madagascar	Mining	22-Aug-2007
Tokyo Crimson Energy Holdings Corp (Mirant)	Mirant Acquisition	3,678	Philippines	Power	7-Jun-2007
Bombela Concession Co Pty Ltd	Gautrain Rapid Rail Link	3,630	South Africa	Rail-Infrastructure	25-Jan-2007
Yucpa Finance BV	Western Energy Development and Anaco Project - PDVSA	3,500	Venezuela	Oil Refinery/ LNG and LPG Plants	21-Feb-2007
Jubail Power & Water Co	Marafiq IWPP	3,500	Saudi Arabia	Power	14-May-2007

Source: Project Finance Magazine March 2008

Proposal Assumptions that Impact the Proposal Base Case Financing Structure

- The Project is a 4.5 bcf/day system to transport natural gas from Prudhoe Bay to the Alberta market hub;
- 25-year ship-or-pay contracts with market standard shipper credit requirements;
- Debt is non-recourse to TransCanada (i.e., the debt is 'project debt');
- Capitalization of 70% debt and 30% equity during construction;
- Capital cost overruns to be financed through federally guaranteed cost overrun loans;
- Federally guaranteed capital cost overrun loans to be repaid through shipper surcharge; and
- No project completion guarantee or pre-completion debt guarantee from equity sponsors is assumed.

It is important to note that these assumptions underlie all of our conclusions with regards to the Proposal, and unless otherwise noted, any cases based on the Proposal.

Developing the Proposal Base Case Capital Structure

Key Drivers

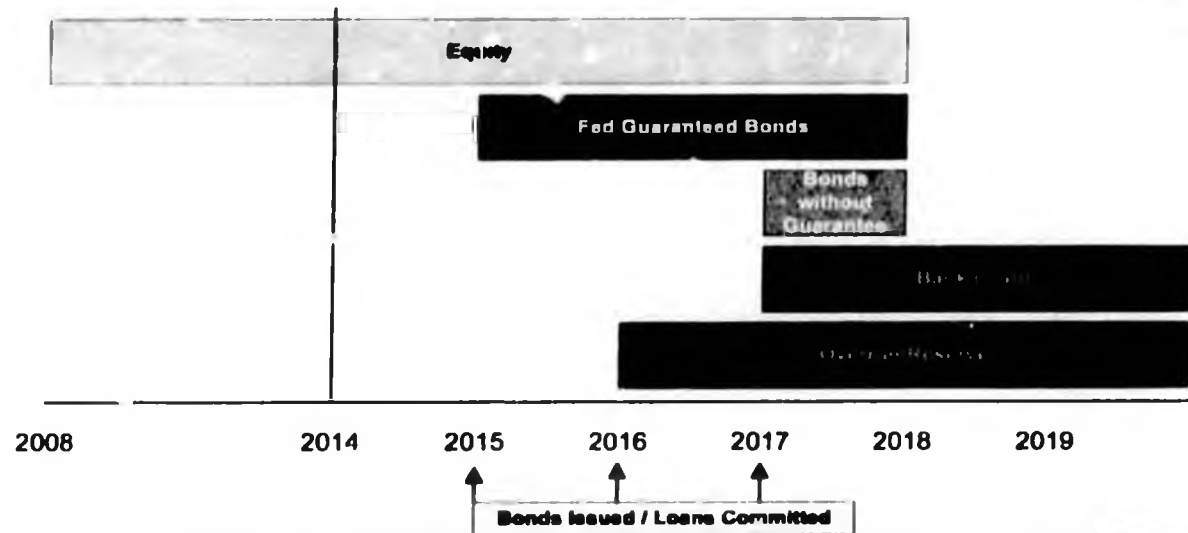
- Annual Funding Requirements
- Mix of Funding Sources
- Use of the Federal Loan Guarantee
- Interest Rate Assumptions

Funding Considerations

- Timing of Equity vs. Debt
- Debt: Bank Loans vs. Bonds
- Allocation of Federal Loan Guarantee

Allocation of Funding Sources

- Equity requirement is significant and front loaded to attract lenders and to ensure investment grade ratings
- Optimize impact of Federal Loan Guarantee
- Minimize overall interest costs





Disclaimers

The analysis and conclusions set forth herein are based on economic, financial, political, market and other conditions as they exist and can be evaluated on the date hereof, and we have not undertaken to reaffirm or revise our findings or otherwise comment upon any conditions or events occurring after the date hereof. Our analysis and conclusions also involve numerous assumptions and uncertainties, many of which cannot be verified or ascertained presently. Goldman Sachs does not provide accounting, tax or legal advice, and we make no representation as to the appropriateness or adequacy of the information contained herein or our procedures for, and express no view as to, the tax, accounting or legal treatment of any matter.

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Press Release: May
25, 2005

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Docket Number: RM05-1-001

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Telephone:
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Commission reaffirms and clarifies open-season rules for Alaska natural gas transportation proposals

The Federal Energy Regulatory Commission today reaffirmed and clarified its rules establishing requirements governing the conduct of open seasons for capacity for future Alaska natural gas pipeline projects.

The Order No. 2005 rules, designed to promote competition, exploration, development and production of Alaska natural gas, establish standards for creating open seasons for potential shippers to compete for and acquire initial capacity and future expansion capacity on any potential Alaska pipeline. The rules also provide standards for allocating the capacity to ensure nondiscriminatory access to any Alaska transportation projects.

The State of Alaska, Enbridge Inc., Chevron/Texaco Natural Gas, a division of Chevron U.S.A. Inc., and a joint filing by North Slope Producers – ExxonMobil Corporation, BP Exploration (Alaska)

Inc. and ConocoPhillips – requested either clarification or repeal of certain aspects of the open season rules, issued February 9, 2005.

The Commission clarified that the Commission may require design changes necessary to ensure that some portion of a proposed voluntary expansion will be allocated to new shippers, or shippers seeking to transport gas from areas other than the Prudhoe Bay or Point Thomson areas, provided they agree to sign qualifying, long-term transportation contracts.

Parties had maintained the rules erred by allowing Commission-mandated design changes at the conclusion of the open season process and that design changes would be an illegal extension of FERC authority. But the Commission rejected those arguments, citing legal precedent that any design change would not constitute a mandatory expansion of any project and that the Natural Gas Act provides FERC authority to attach to any certificate of public convenience and necessity any conditions it deems necessary to meet the public interest.

Among other things, the Commission:

- o expanded criteria for evaluating late bids for capacity and the requirement that any late bid contain a good-faith showing. Parties had asserted the rule needed additional standards to encourage participation in the initial open season and to

address late bidding for capacity;

- o clarified that the open-season plan must contain the actual open-season notice and eliminates the 30-day advance notice requirement that applicants must file open-season procedures to FERC. Parties had contended the original 90-day advance filing time frame could potentially result in unnecessary delays in FERC's processing of their request;
- o clarified that applicants must establish a separate entity to conduct the open season; and
- o clarified that open season notices need not include a cap on contract terms.

Revisions to Order No. 2005 will become effective on the date the order is published in the Federal Register.

R-05-29

-30-

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Updated: May 25, 2005

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Financial Review of TransCanada and Proposal

June 10, 2008



Discussion Topics

- Key Findings
- Financial Strength of TransCanada
- Financing Review of Proposal



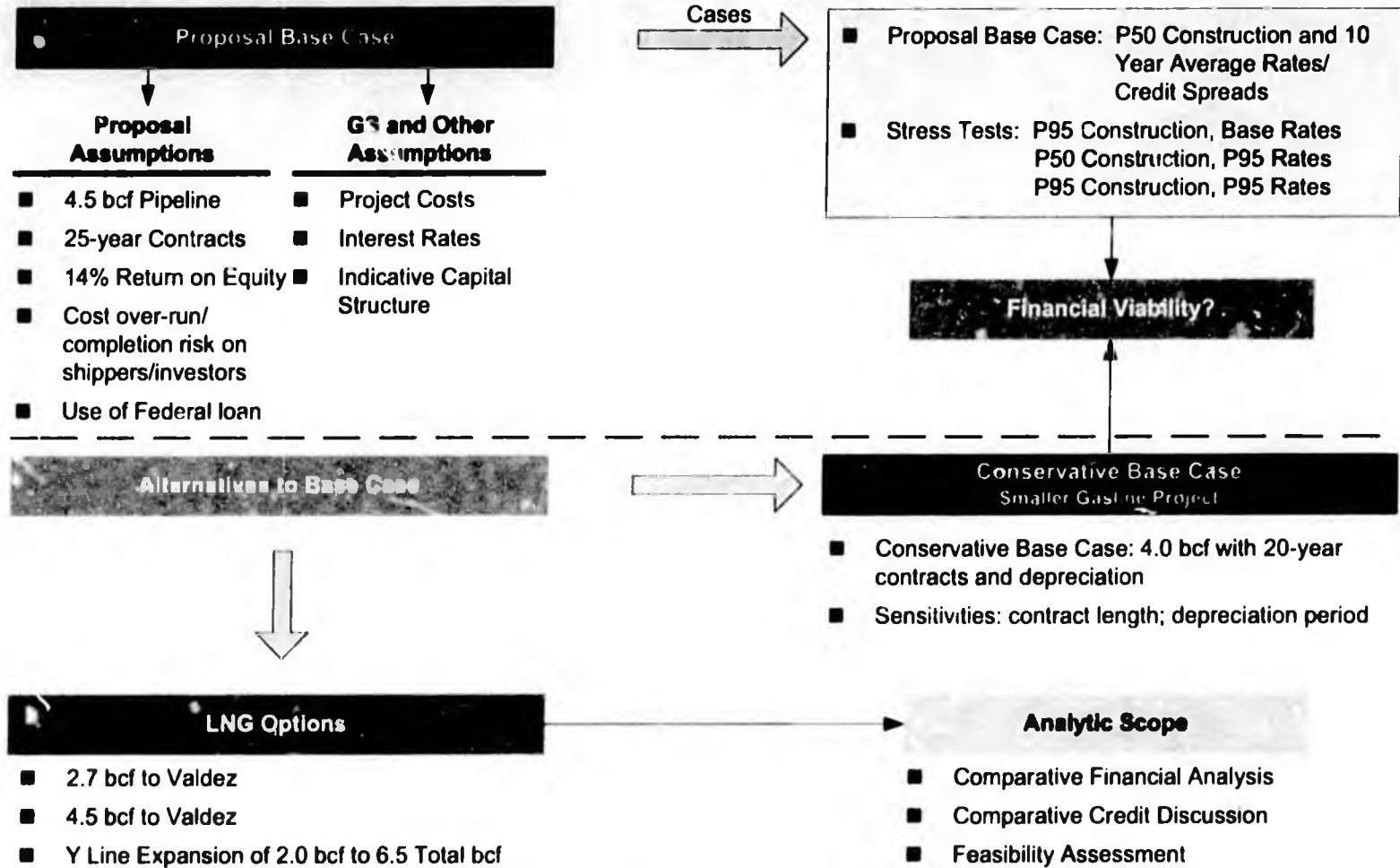
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Cases Analyzed





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Financial Strength of TransCanada

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Key Rating Agency Commentary Regarding TransCanada

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Review (Downgrade)

Key Strengths

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- Strong competitive position driven by importance of TransCanada's Canadian pipelines in transporting gas out of the WCSB
- TCPL's electricity generation assets tend to be characterized by either low marginal cost of production or long-term power purchase agreements with highly rated counterparties
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Standard & Poor's

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Stable

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TransCanada and its Comparables Have Accessed the Financial Markets in Good and Troubled Times

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MidAmerican

- **2008** - \$650 million of senior unsecured notes
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- **2006** - \$1.7 billion of senior unsecured notes and \$350 million of long-term debt
- **2002** - \$700 million of senior notes

Spectra

- **2007** - \$450 million of senior unsecured notes

Kinder Morgan

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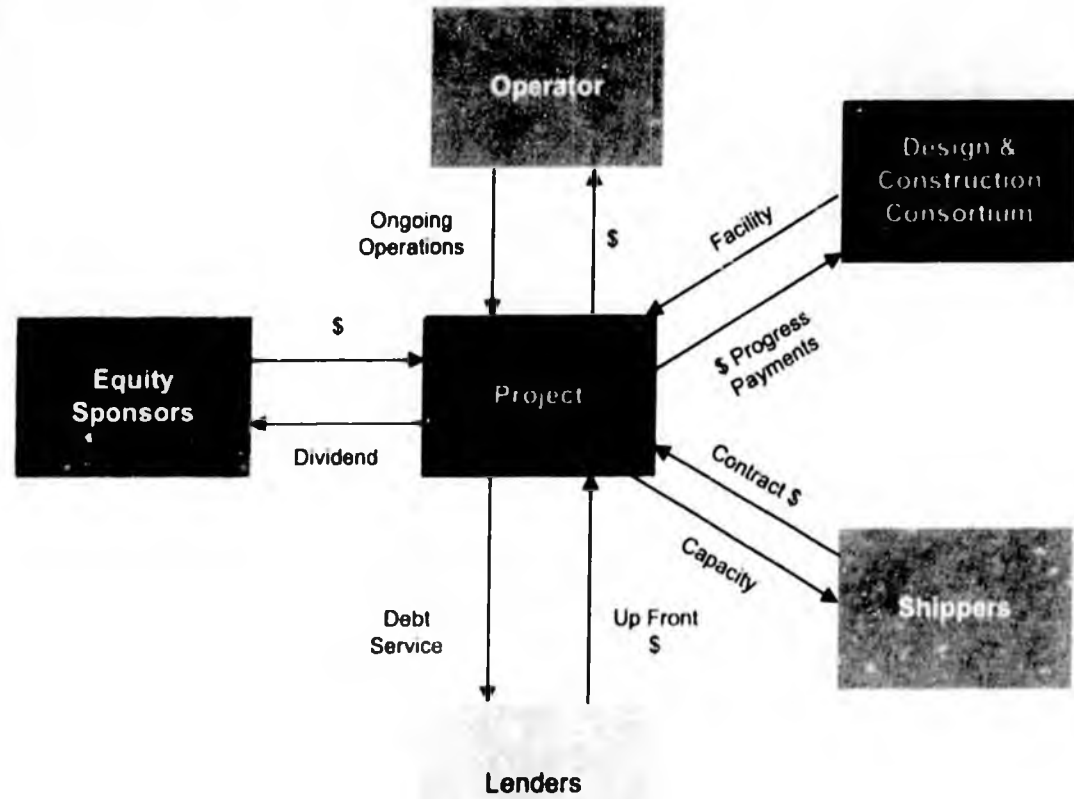
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- Take limited completion risk – construction risk typically mitigated through EPC contracts and/or a combination of pre-completion guarantees or cost overrun protection facilities;
- Want to insure that all funding needs are provided for
- Assess operating risk as part of the overall project – seek protections from revenue interruption



Project Financings are Common in the Energy and Oil & Gas Sectors

Borrower Name	Project Name	Amount (\$Mm)	Country	Sector	Financial Close
Emirates Aluminum - EMAL	Abu Dhabi Aluminum Smelter	\$7,050	United Arab Emirates	Processing Plant	12-Dec-2007
Qatar Liquefied Gas Co Ltd (Qatargas) IV	Qatargas 4	5,714	Qatar	Oil Refinery /LNG and LPG Plants	30-Jul-2007
Fujian Refining & Petrochemical Co Ltd - FREP	Fujian Refining and Ethylene Joint Venture Project	5,600	China	Petrochem/ Chemical Plant	6-Sep-2007
Qatalum	Qatar Aluminum Plant	4,739	Qatar	Processing Plant	23-Aug-2007
Red de Carreteras de Occidente	FAIAC Toll Road PPP	4,280	Mexico	Road	27-Sep-2007
Ambatovy Minerals SA	Ambatovy Nickel Project	3,700	Madagascar	Mining	22-Aug-2007
Tokyo Crimson Energy Holdings Corp (Mirant)	Mirant Acquisition	3,678	Philippines	Power	7-Jun-2007
Bombela Concession Co Pty Ltd	Gautrain Rapid Rail Link	3,630	South Africa	Rail-Infrastructure	25-Jan-2007
Yucpa Finance BV	Western Energy Development and Anaco Project - PDVSA	3,500	Venezuela	Oil Refinery/ LNG and LPG Plants	21-Feb-2007
Jubail Power & Water Co	Marafiq IWPP	3,500	Saudi Arabia	Power	14-May-2007

Proposal Assumptions that Impact the Proposal Base Case Financing Structure

- The Project is a 4.5 bcf/day system to transport natural gas from Prudhoe Bay to the Alberta market hub;
- 25-year ship-or-pay contracts with market standard shipper credit requirements;
- Debt is non-recourse to TransCanada (i.e., the debt is 'project debt');
- Capitalization of 70% debt and 30% equity during construction;
- Capital cost overruns to be financed through federally guaranteed cost overrun loans;
- Federally guaranteed capital cost overrun loans to be repaid through shipper surcharge; and
- No project completion guarantee or pre-completion debt guarantee from equity sponsors is assumed.

it is important to note that these assumptions underlie all of our conclusions with regards to the Proposal, and unless otherwise noted, any cases based on the Proposal.



Developing the Proposal Base Case Capital Structure

Key Drivers

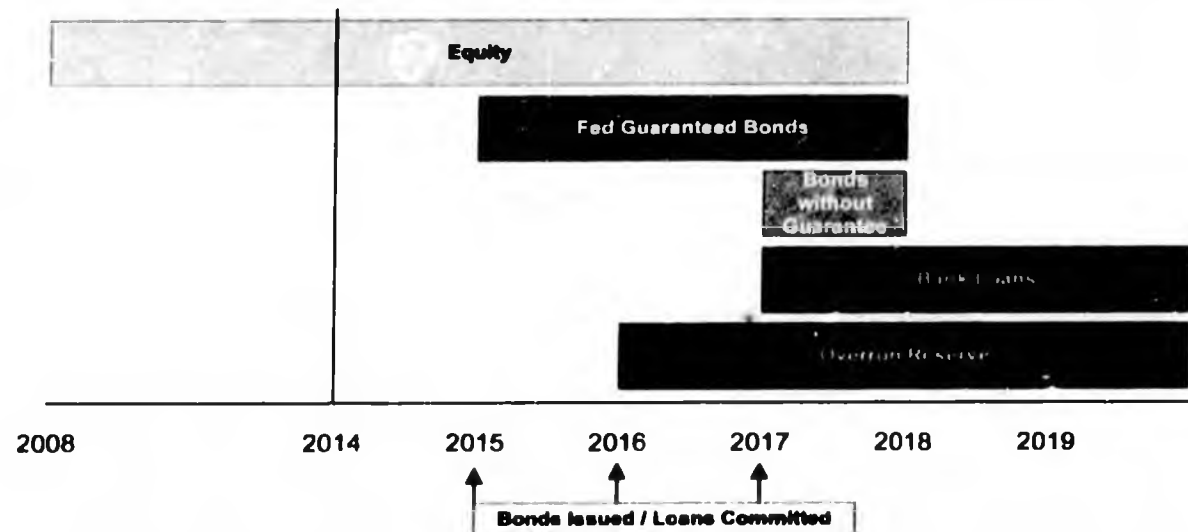
- Annual Funding Requirements
- Mix of Funding Sources
- Use of the Federal Loan Guarantee
- Interest Rate Assumptions

Funding Considerations

- Timing of Equity vs. Debt
- Debt: Bank Loans vs. Bonds
- Allocation of Federal Loan Guarantee

Allocation of Funding Sources

- Equity requirement is significant and front loaded to attract lenders and to ensure investment grade ratings
- Optimize impact of Federal Loan Guarantee
- Minimize overall interest costs





Disclaimers

The analysis and conclusions set forth herein are based on economic, financial, political, market and other conditions as they exist and can be evaluated on the date hereof, and we have not undertaken to reaffirm or revise our findings or otherwise comment upon any conditions or events occurring after the date hereof. Our analysis and conclusions also involve numerous assumptions and uncertainties, many of which cannot be verified or ascertained presently. Goldman Sachs does not provide accounting, tax or legal advice, and we make no representation as to the appropriateness or adequacy of the information contained herein or our procedures for, and express no view as to, the tax, accounting or legal treatment of any matter.

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This material provided by Goldman Sachs is exclusively for the information of the Commissioners of the State of Alaska Departments of Natural Resources and Revenue and senior management of the State. In addition, unless indicated otherwise, further use by the State of information and data contained herein sourced to third parties would require approval from such third parties given directly to the State.

BUILDING A WORLD OF DIFFERENCE



BLACK & VEATCH



Presentation to the State of Alaska Legislature

Liquid Natural Gas (LNG) NPV Analysis and Results

June 9, 2008

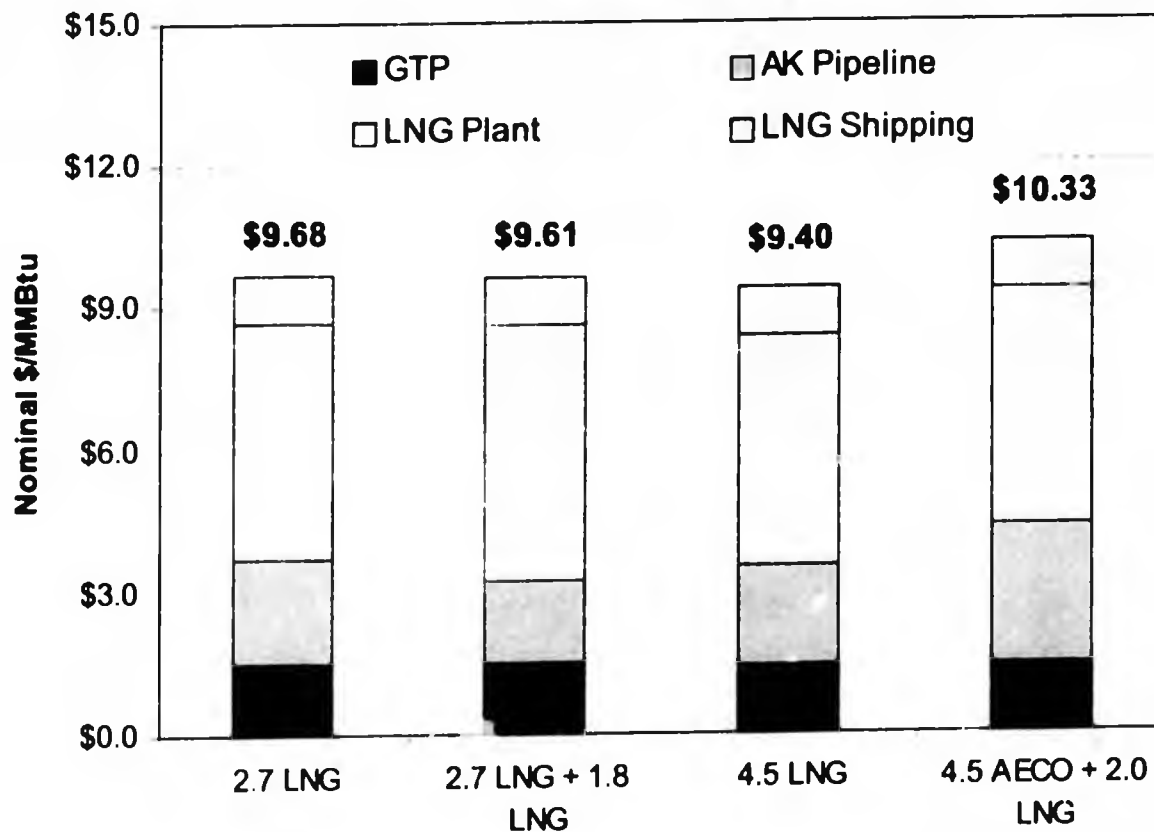
Key Conclusions

- LNG Projects Have Higher Capital Costs and Therefore Greater Risk than a Pipeline Project
- Similar to an Overland Project, Price Remains the Primary Risk to a LNG Project
- LNG Projects Have Positive NPVs with Base and High LNG Price Assumptions
- The 4.5 Bcf/d Proposal Base Case Project Produces a Higher NPV than a 4.5 Bcf/d LNG Project
- A Sustained High Oil to Gas Price Relationship is Required for an LNG Project to be Favorable when Compared to an Overland Route



Expected LNG Tariffs for the LNG Project Configurations Considered

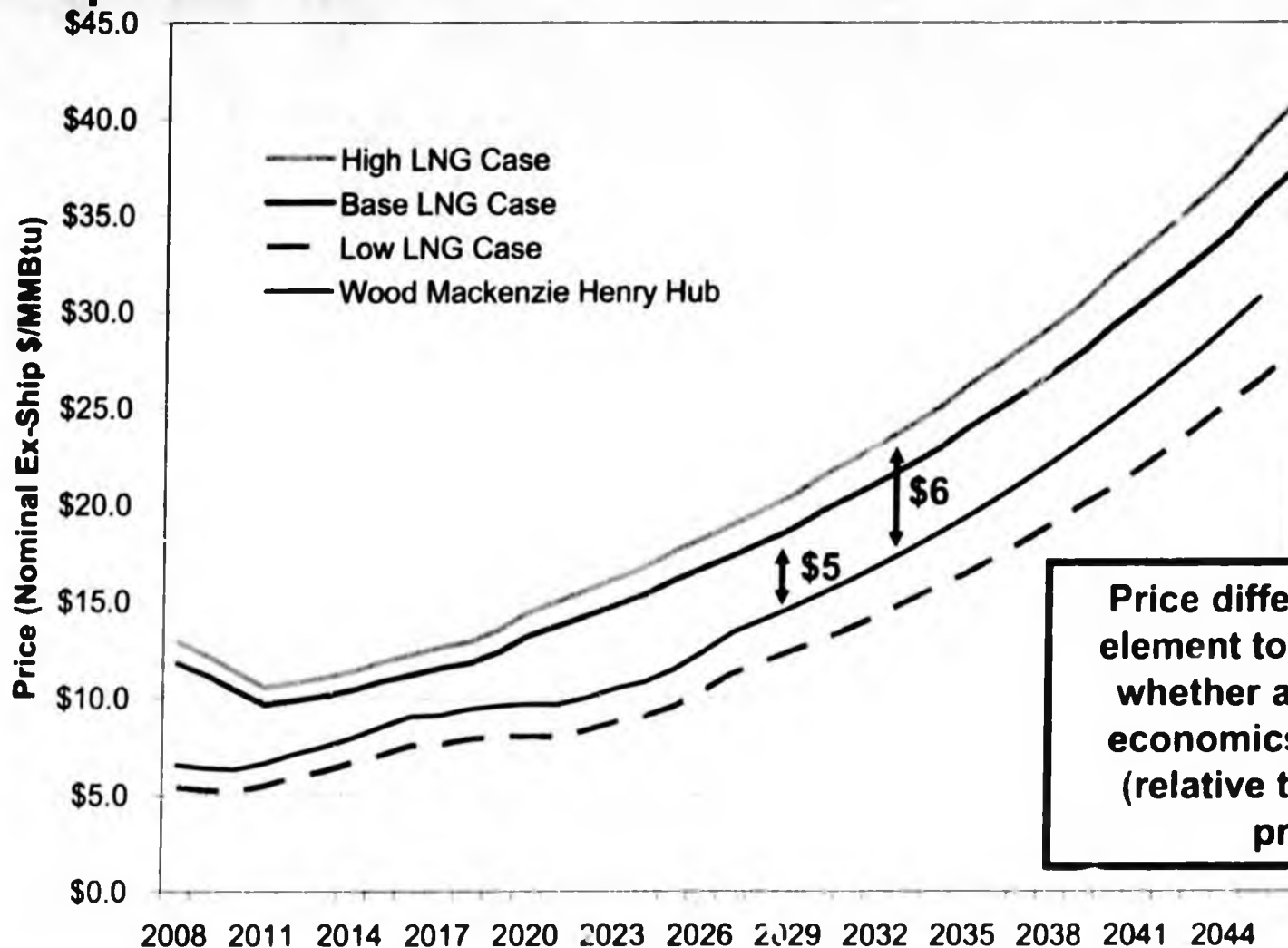
LNG Tariffs



- Assumed same terms as TC proposal
- Differences to tariff are:
 - Higher capital
 - Higher fuel Losses
 - Higher O&M
 - Higher property taxes
 - Delayed start date
 - Higher debt cost
 - LNG shipping



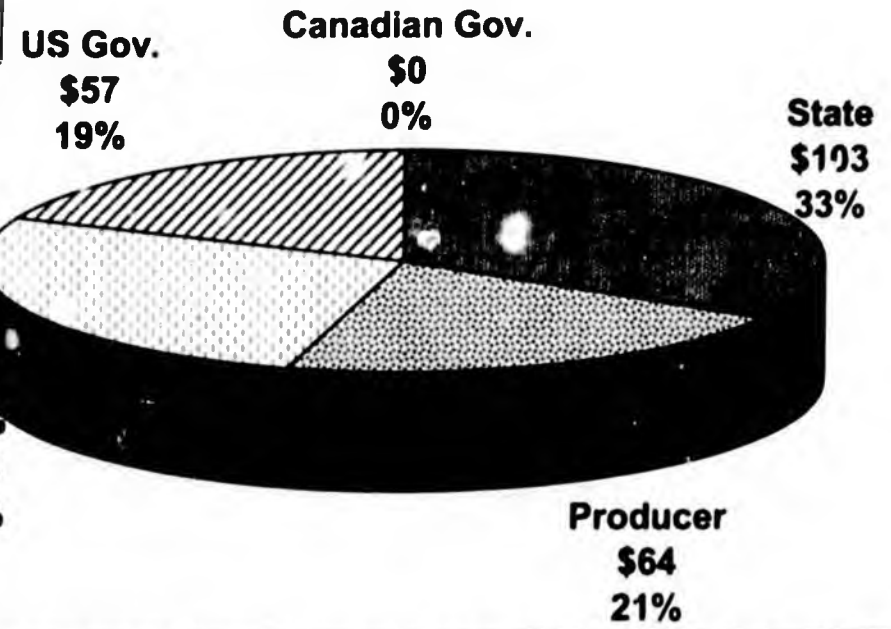
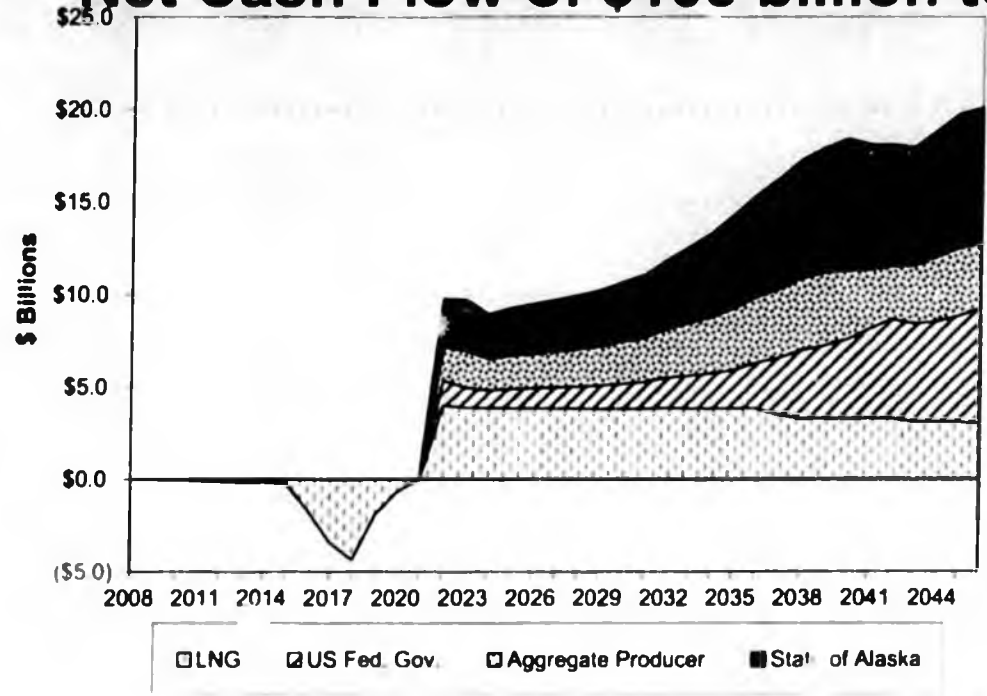
Applying the Gas Strategies Asian Price Formula Expectations



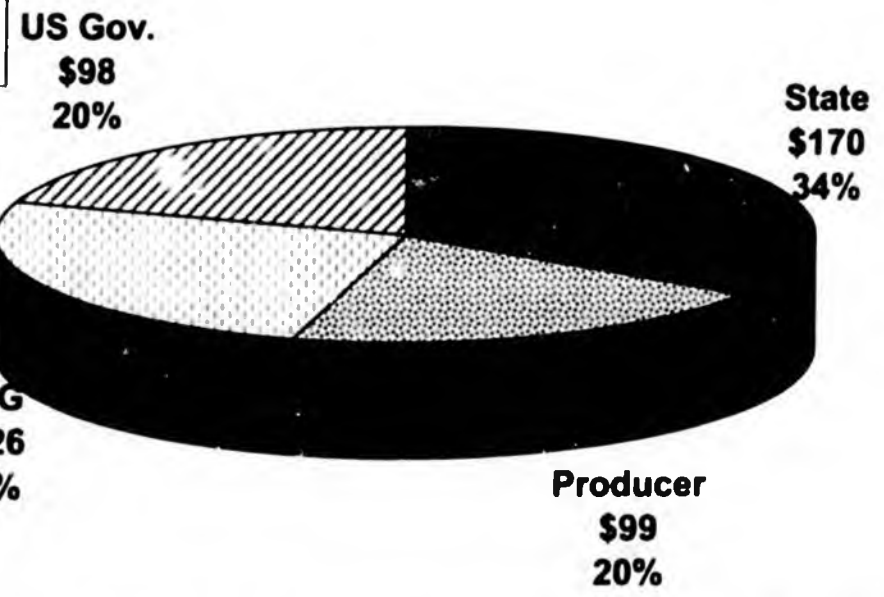
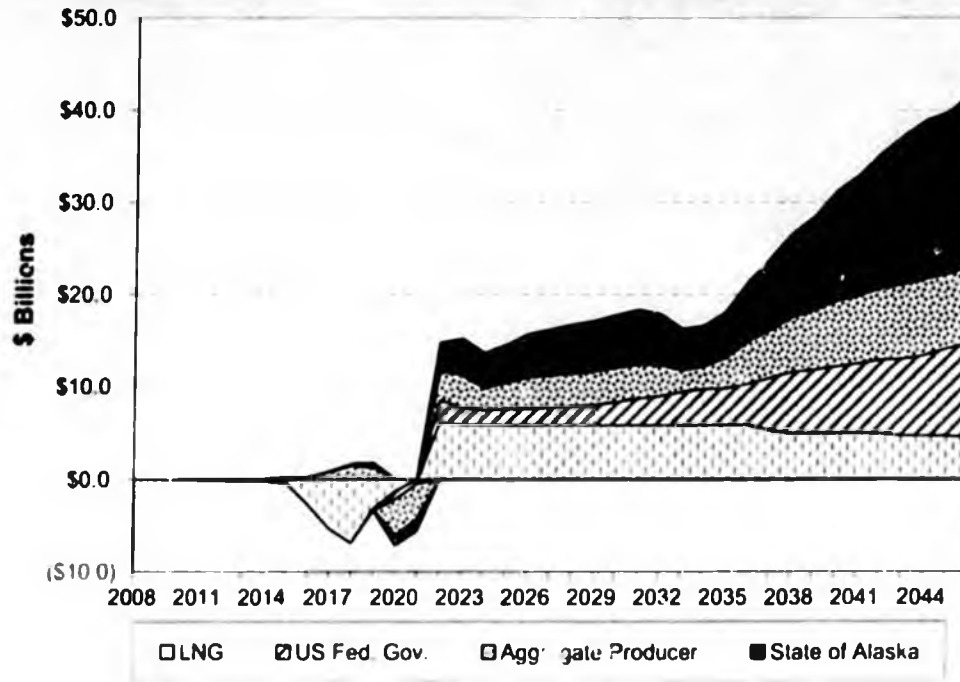
Price differential is a key element to understanding whether an LNG project economics are favorable (relative to an overland project).



Estimated Cash Flow for the 2.7 Bcf/d LNG Case: Positive Net Cash Flow of \$103 billion to the State

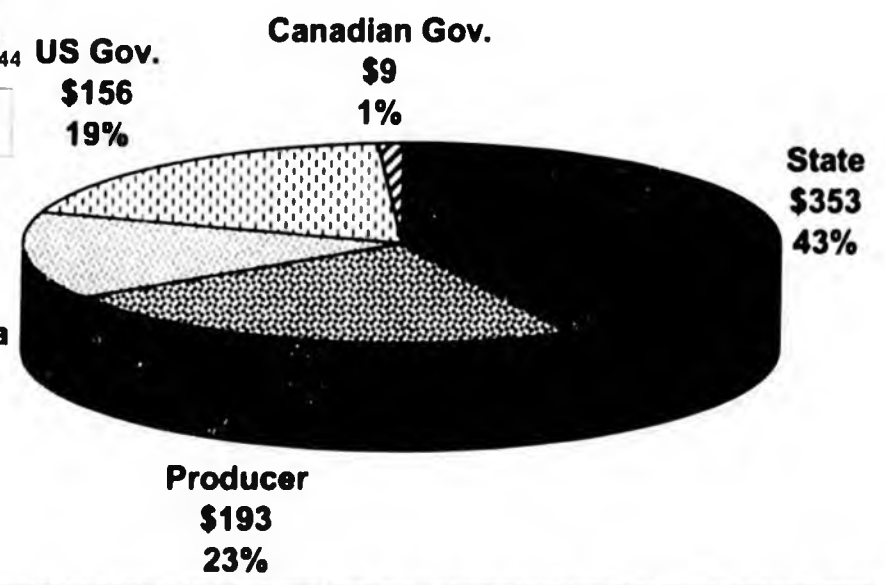
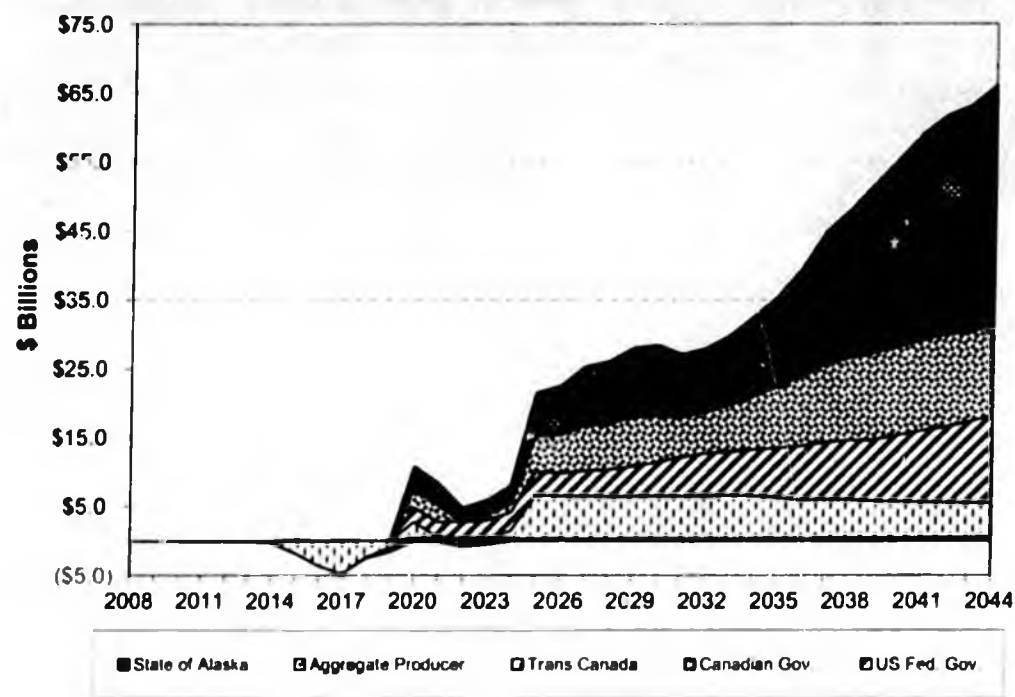


Estimated Cash Flow for the 4.5 Bcf/d LNG Case: Positive Net Cash Flow of \$170 billion to the State

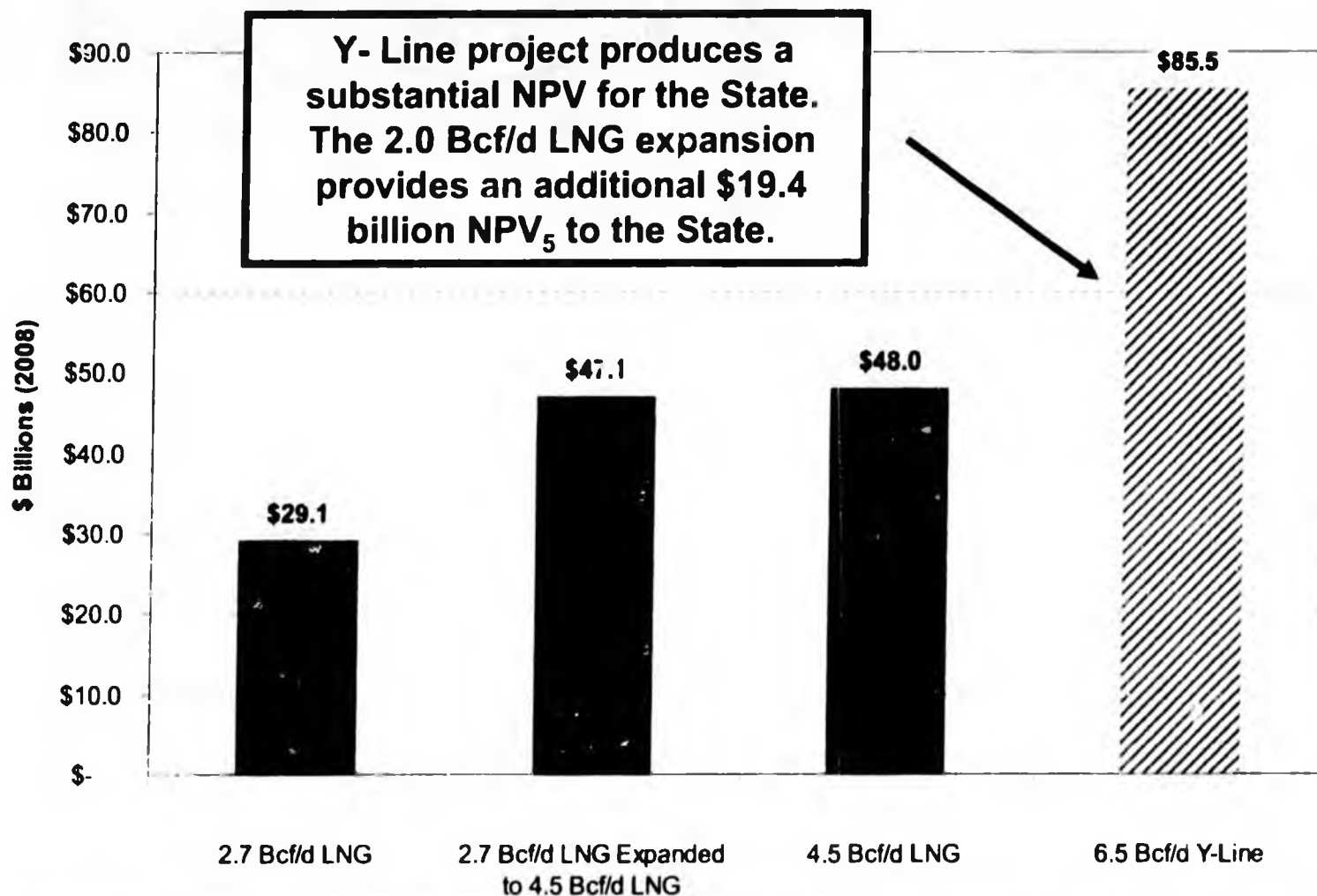




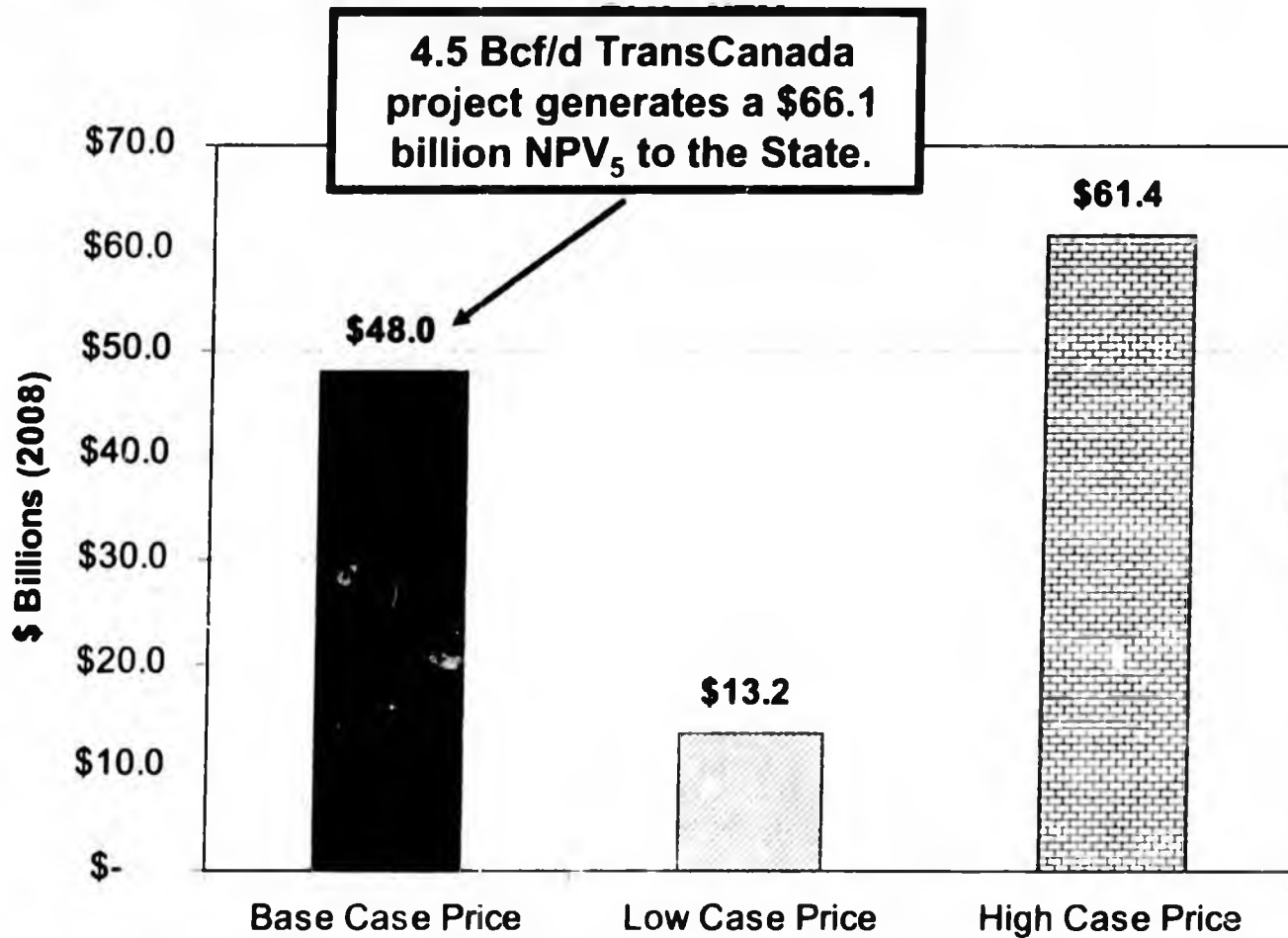
Y-Line – Aggregate Project Cash Flow: Positive Net Cash Flow of \$353 billion to the State



Estimated State NPV₅ is Substantially Positive for all LNG Project Configurations Considered



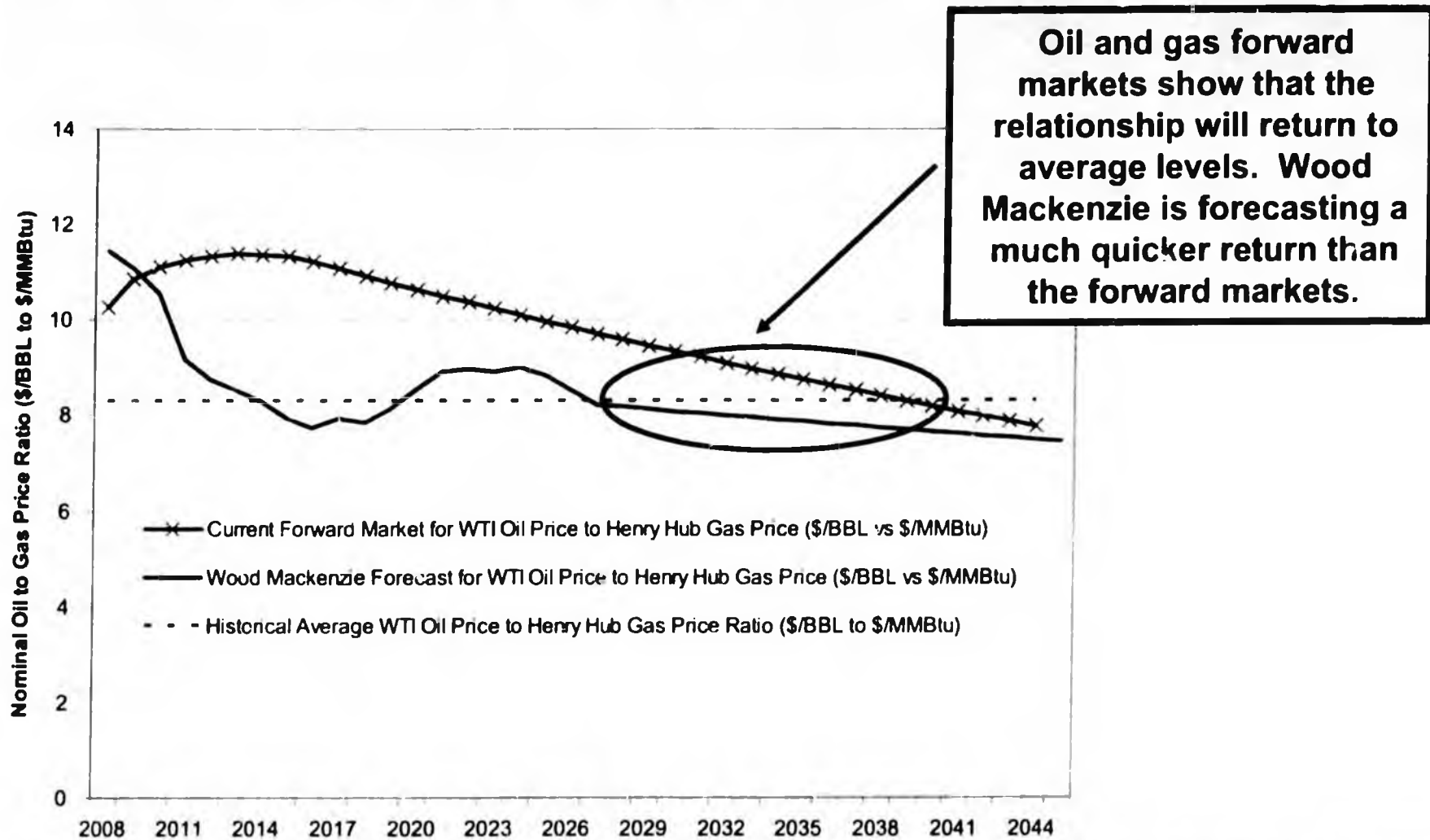
LNG Price Scenario Impacts on the State NPV₅ for the 4.5 Bcf/d LNG Project



- Considered the alternative price scenarios impact on the producers
- Producer NPV₁₅:
 - Base LNG Price - \$3.0 billion
 - High LNG Price - \$3.8 billion
 - Low LNG Price - <\$1.8> billion



Current Market Relationship between Oil and Gas Prices is Substantially Higher than Historical Average



Implications to LNG Project NPV from High Oil Prices

Analysis Assumptions:

- Considered oil to gas price ratio assumptions of 8, 9, 10 and 11 to 1

Analysis Results:

- High oil prices, relative to gas prices, must be maintained in order for LNG project NPV to be greater than an overland route
- Assumes that the Gas Strategy generated relationships do not change

Base Case LNG Price

- State: 10 to 1 or greater
- Producer: 11 (12) to 1 or greater

High Case LNG Price

- State: 9 to 1 or greater
- Producer: 10 or 11 to 1 or greater



LNG Project Costs/Schedule

AGIA Analysis Technical Team

June 9, 2008

Bill Sparger
Energy Project Consultants, LLC

Keith Dodson
Westney Consulting Group, Inc

LNG Cases

- **Case 1** – 2.7 or 4.5 bcf/d to Valdez - 48"/42" pipeline - 19.0mmtpa LNG
- **Case 2** – **TransCanada's Y line** - 6.5 bcf/d to Delta Junction, 4.5 bcf/d to Alberta and 2.0 bcf/d to Valdez - 48" pipeline to Alberta and 30" pipeline to Valdez – 13.9mmtpa LNG
- **Case 3** – 4.5 bcf/d to Valdez - 48" pipeline -- 31.5mmtpa LNG

Analysis Results

- Higher capital cost
- Similar schedule duration
- Later project start
- Higher cost/schedule risk

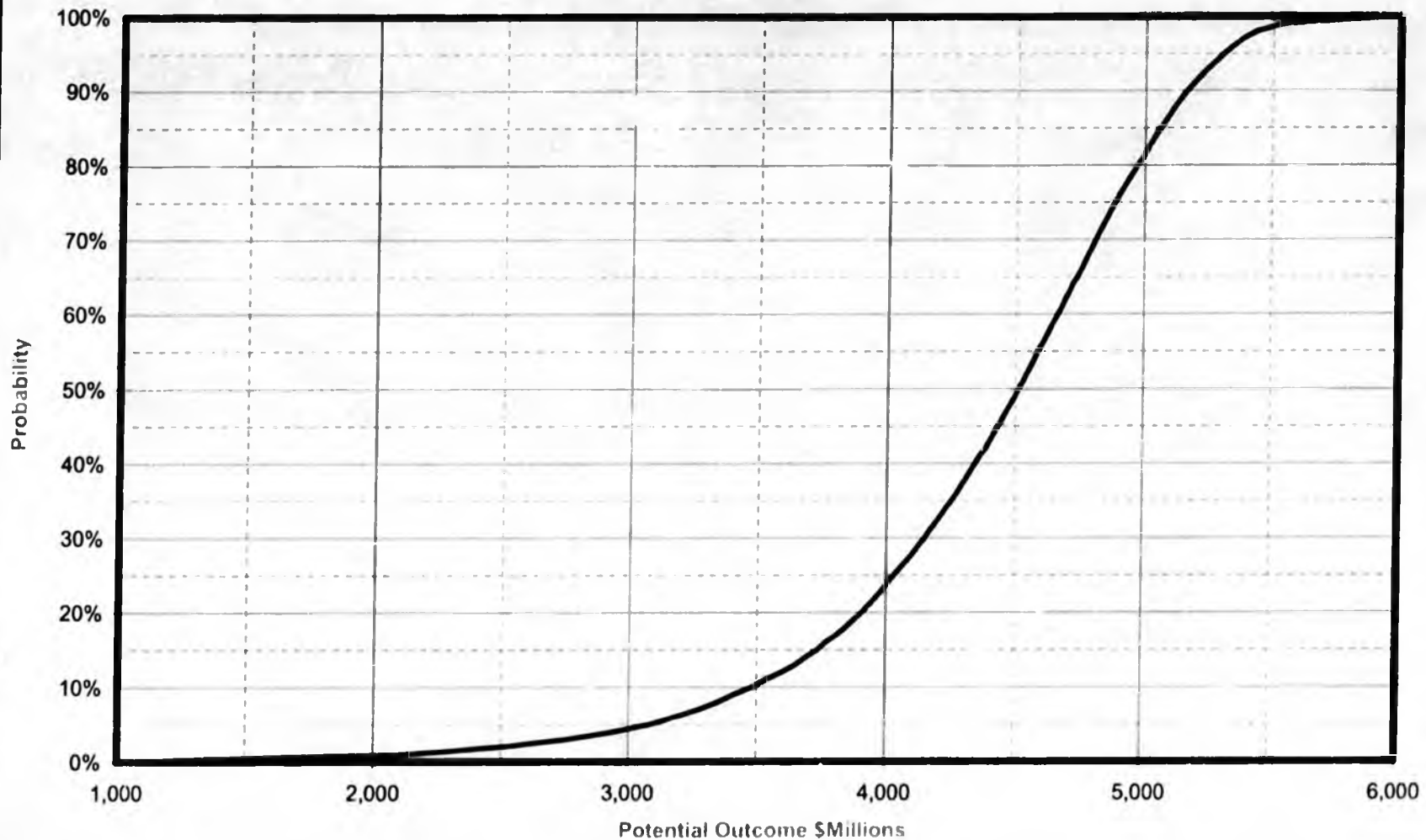
LNG Analysis

Assumptions/Methodology

- LNG plant costs developed from recent comparable worldwide projects
- GTP and pipeline schedule and cost factored from TransCanada's proposed project
- Miscellaneous and development phase costs factored from TransCanada application analysis
- Start of LNG project one year later than TransCanada project

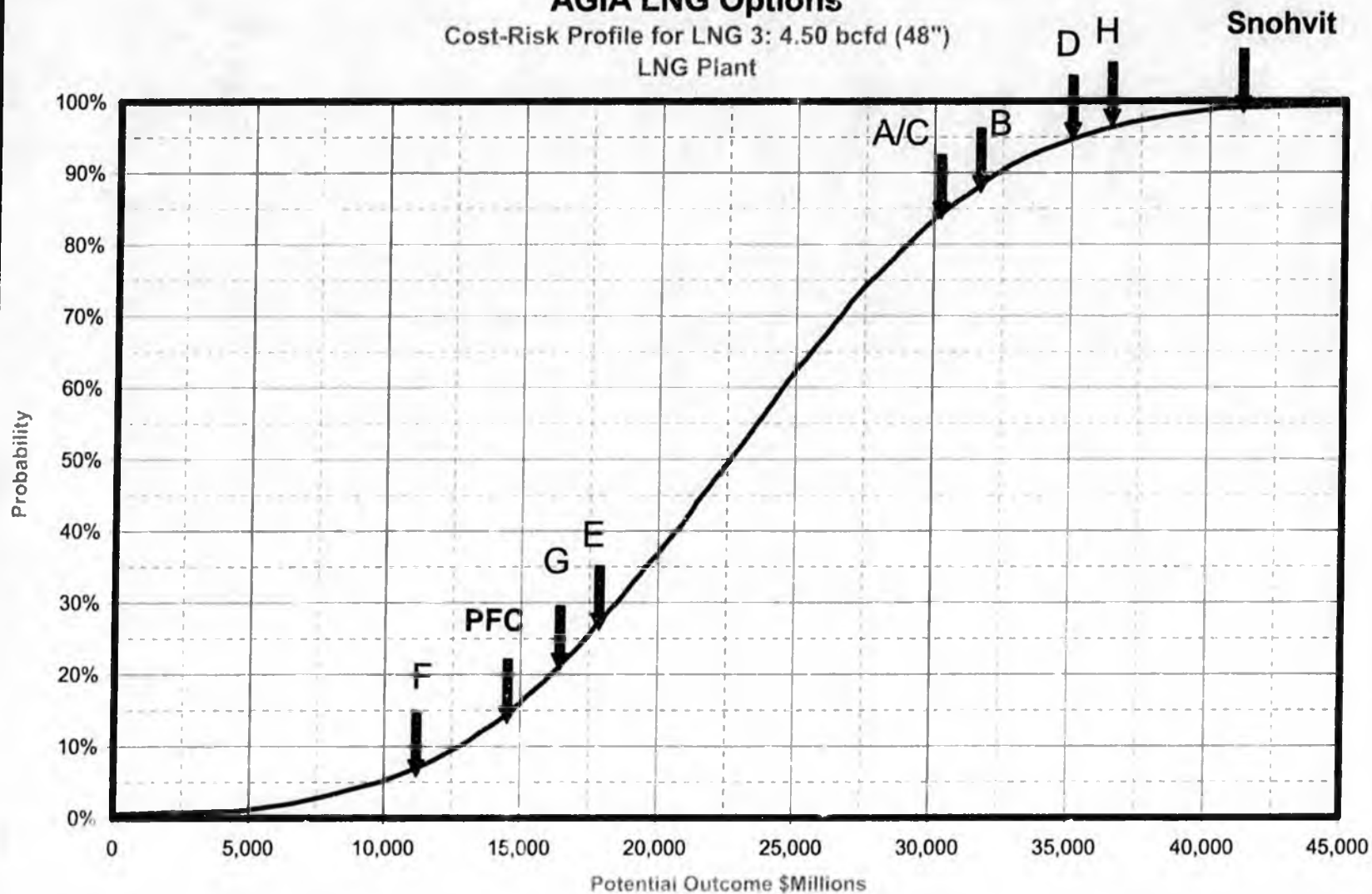
AGIA LNG Options

Cost-Risk Profile for LNG 3: 4.50 bcfd (48")
Delta Junction to Valdez Pipeline

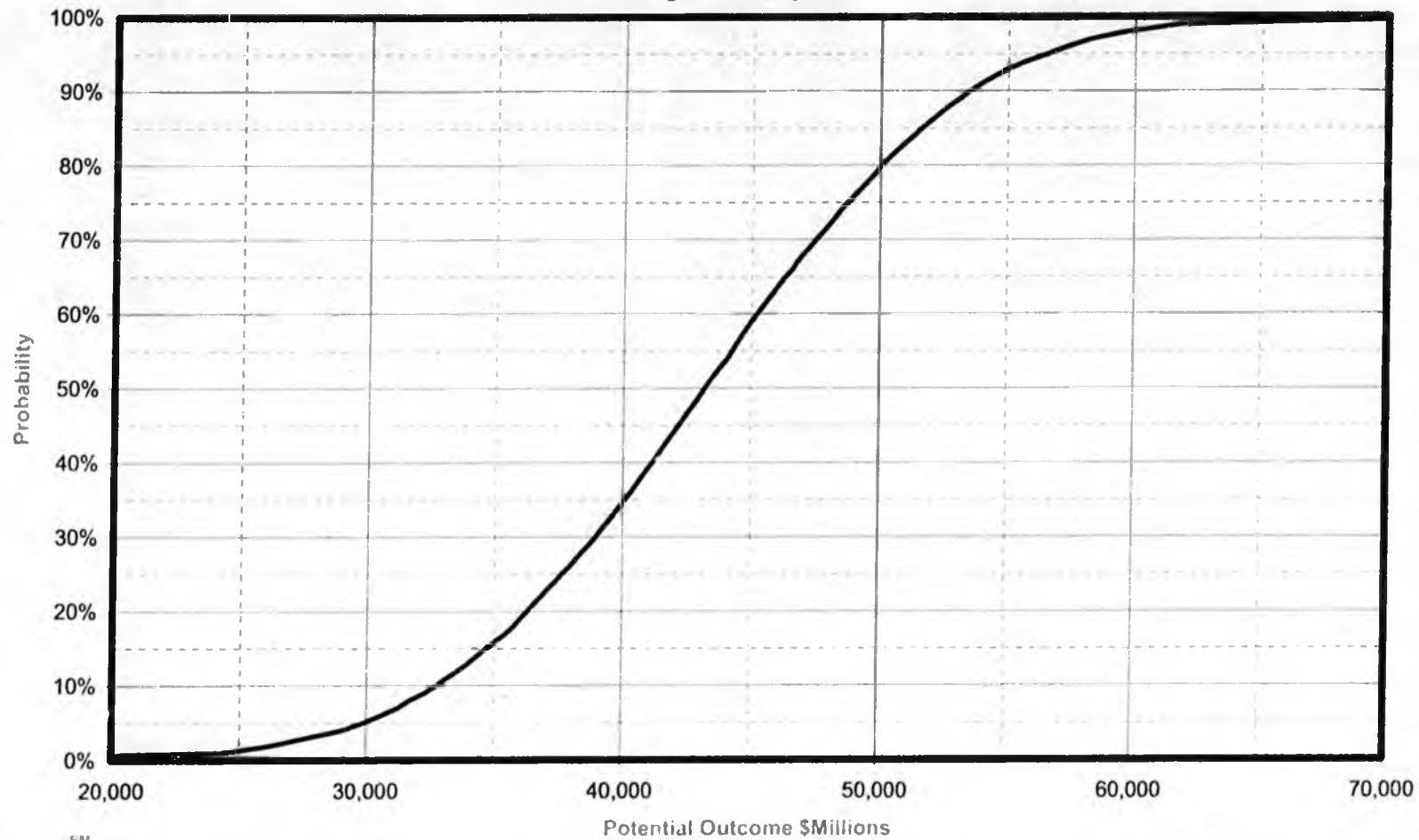


AGIA LNG Options

Cost-Risk Profile for LNG 3: 4.50 bcfd (48")
LNG Plant



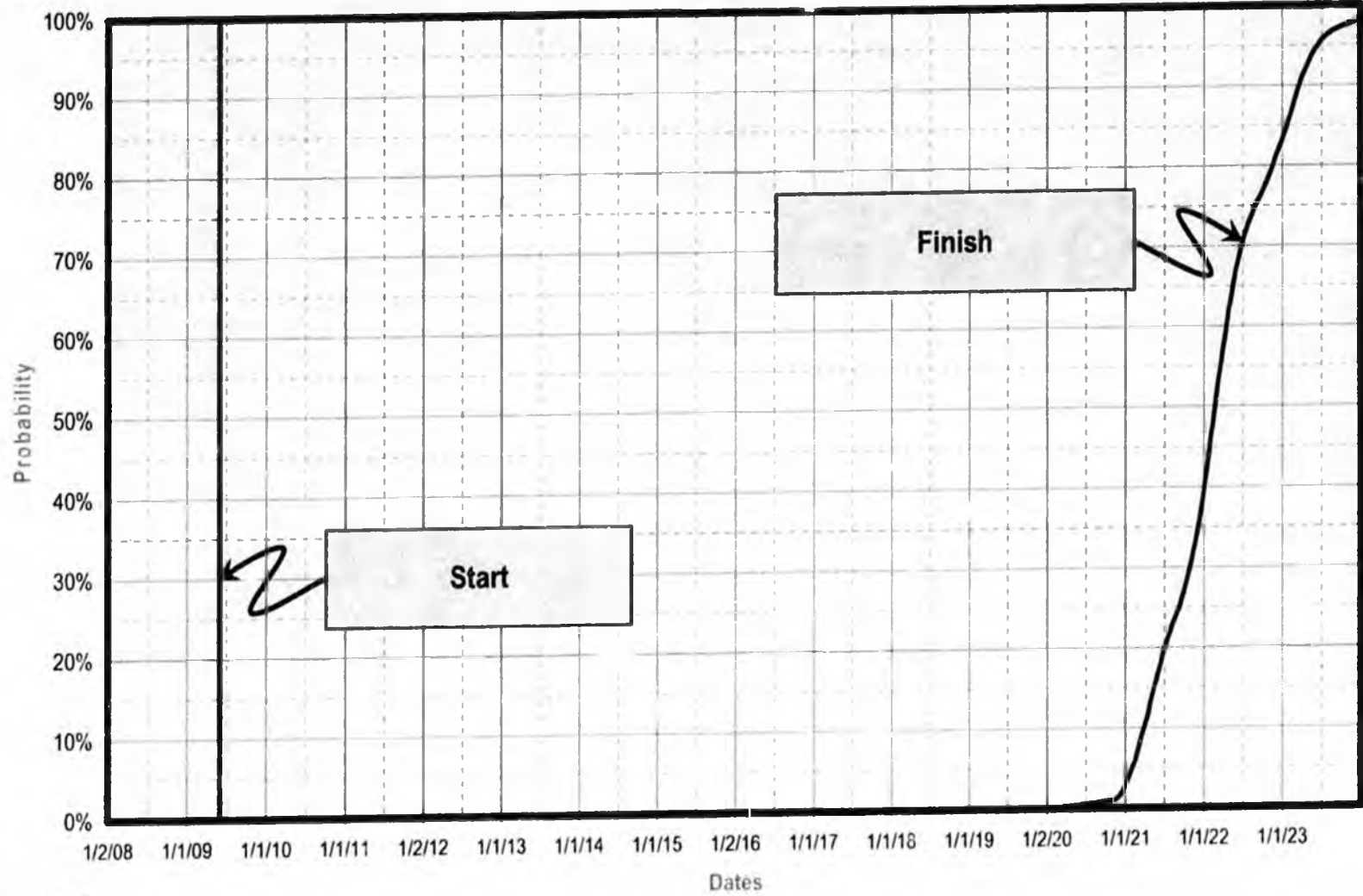
AGIA LNG Options
Cost-Risk Profile for LNG 3: 4.50 bcf/d (48")
Integrated Project



PRIMSSM

AIGA LNG Options

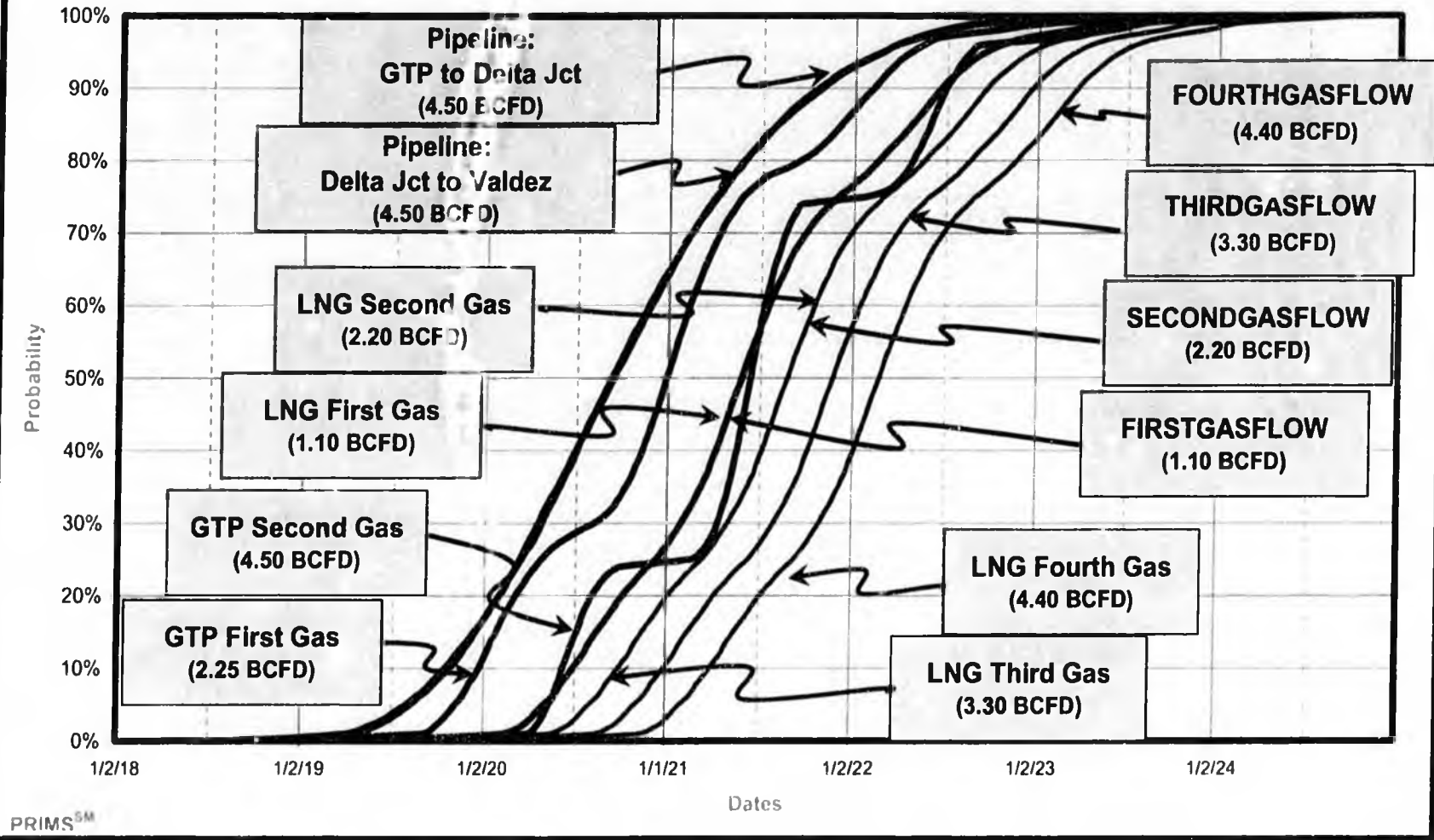
Time-Risk Model Profile for **LNG 3: 4.77 bcf/d (48")**
Project



PRIMSSM

AIGA LNG Options

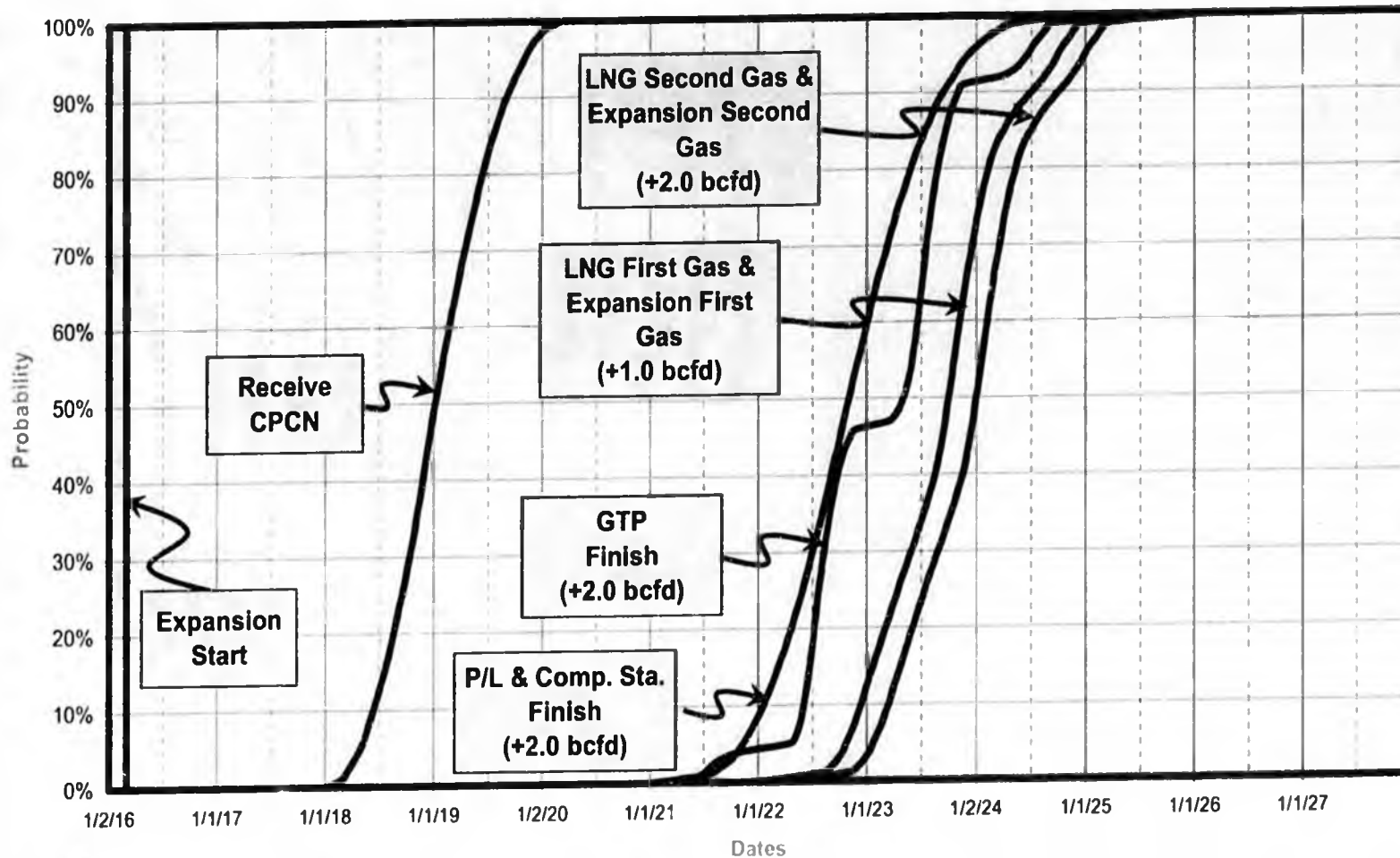
Time-Risk Model Profile for LNG 3: 4.50 BCFD (48")
All Gas



PRIMSSM

AGIA Additional Expansion Cases

Time-Risk Model Profile for **LNG 2a**: Expansion of 4 bcf/d (Base Case) to 6.50 incl 2.00 LNG All Gas



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BLACK & VEATCH



Net Present Value (NPV) Analysis

June 10, 2008

Key Conclusions

- 4.5 Bcf/d TransCanada Proposal has Positive NPV Benefits to All Stakeholders
- Tariffs for Smaller Pipeline Configurations Increase by 13% to 21% Relative to the 4.5 Bcf/d Proposal Base Case
- NPV for Key Stakeholders Indicates Positive NPV for the Conservative Base Case
- NPV Results are Sensitive to Many Factors with Commodity Prices being the Most Significant
 - Producer NPV Remains Positive with Low Market Price Assumptions
- Production from Proven Reserves Drive Positive Stakeholder NPV
- Smaller Initial Pipeline Capacity and Contract Period for Smaller Pipeline Configurations Reduce Reserve Risk Relative to the Proposal Base Case

Impact of the Gasline: Cash flows and NPV calculated are the difference between oil+gas and oil only operations.

Oil + Gas \$\$

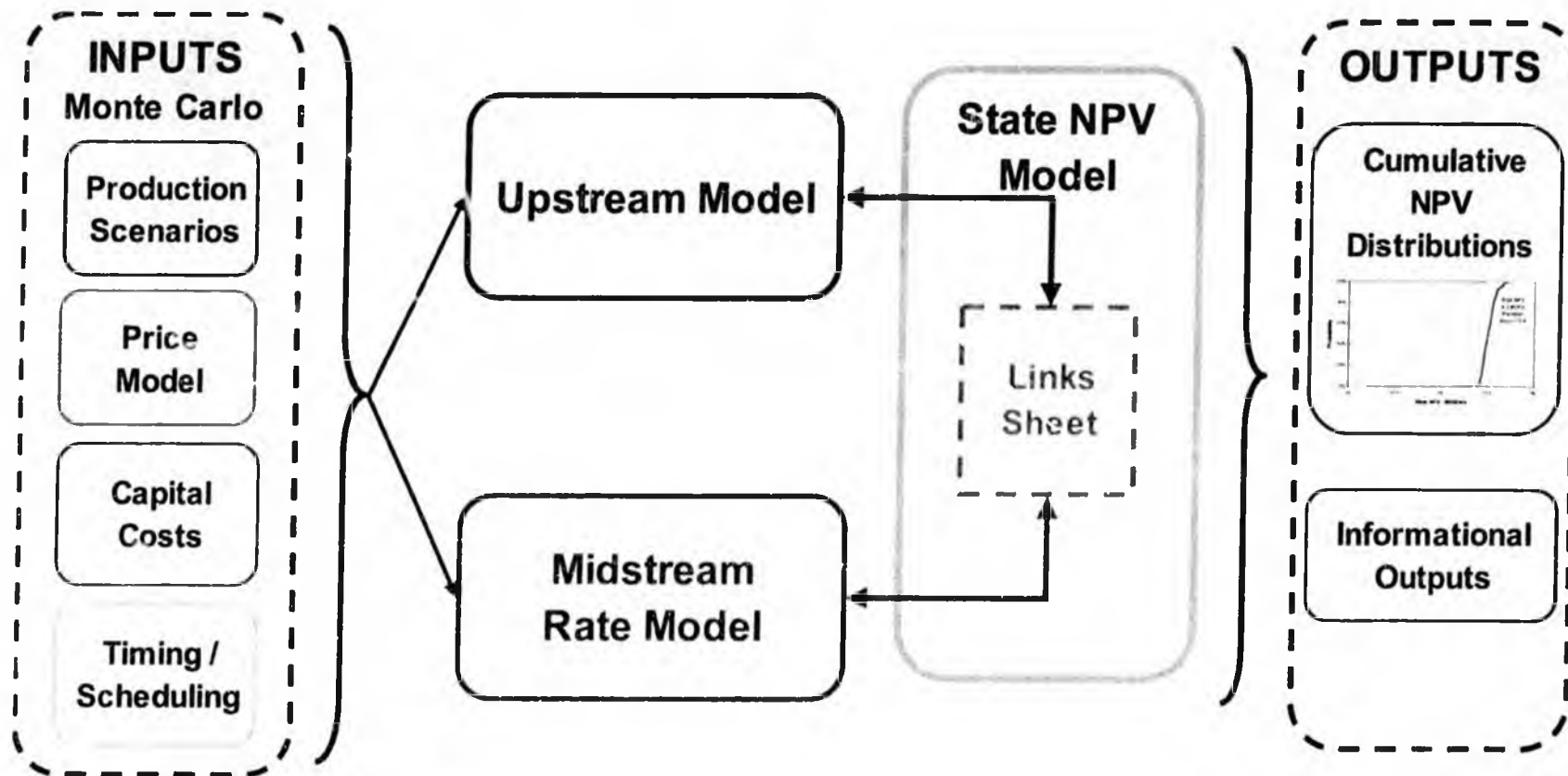
-

Oil Only \$

=

Cash Flows from Gas \$

The NPV Modeling Approach Utilized by Black & Veatch

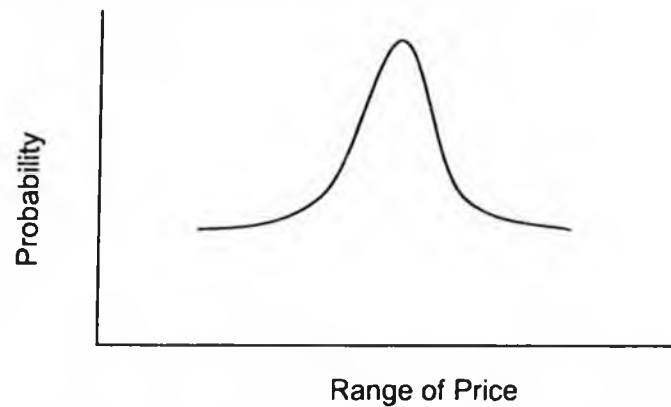


Overview of Natural Gas Price Assumptions Utilized in the NPV Analysis

- Gas delivered to different locations has different prices: Henry Hub vs. AECO
- Prices dependent on the supply/demand balance and pipeline infrastructure
- Forecasts are required to evaluate the project from 2020 to 2045+
- Relied on range of forecasts
 - EIA
 - Wood Mackenzie
 - B&V
 - Others
- Wood Mackenzie is the base case for analysis
 - Independent market assessment
 - Projects an AECO price

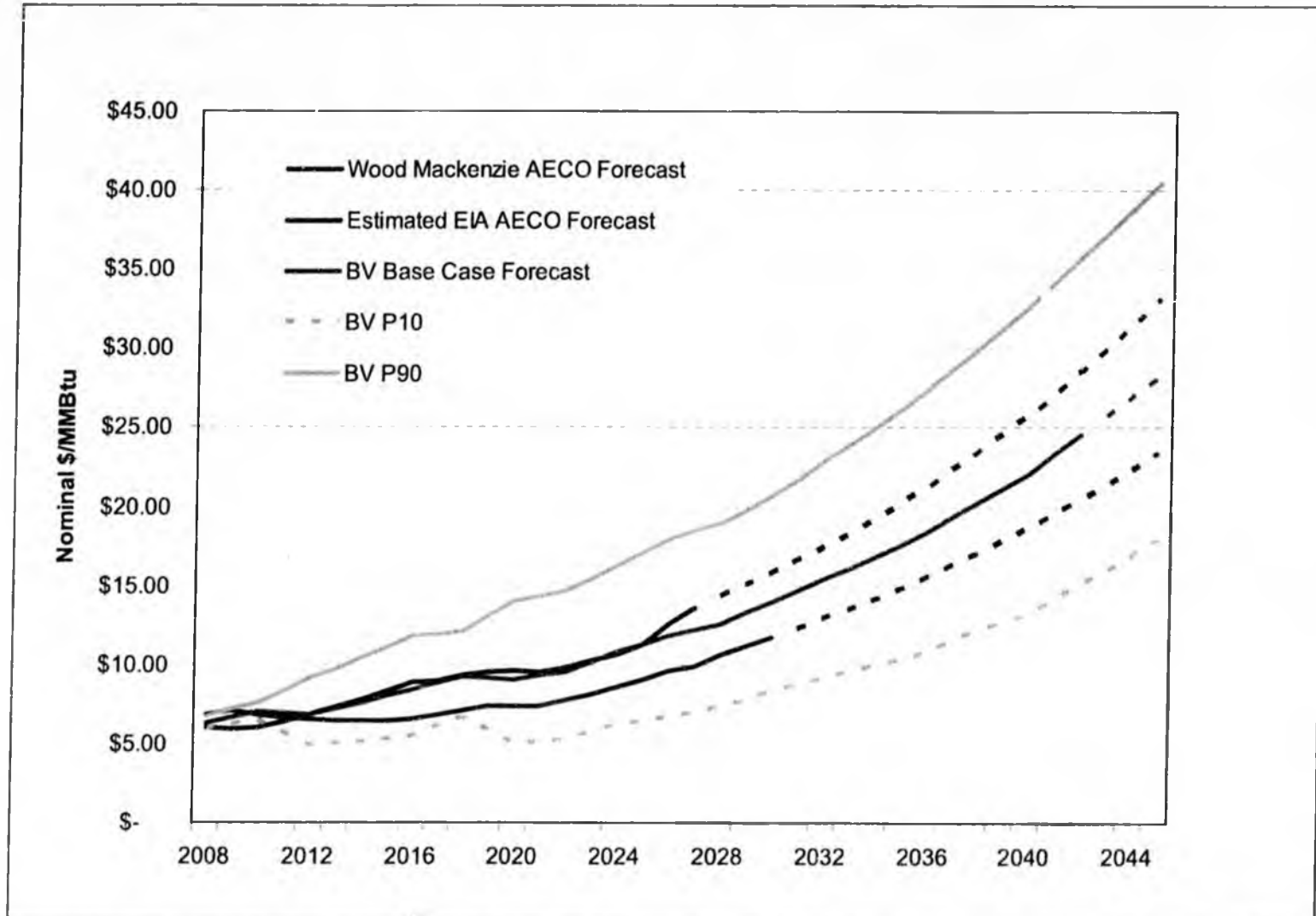
Understanding the Factors that Lead to Future Prices

- Forecasted prices are “point” estimates, all dependent on a specific set of assumptions
- None are expected to be on the dot “correct”
- Price uncertainty and associated risks could be better illustrated using a forecasted price distribution:

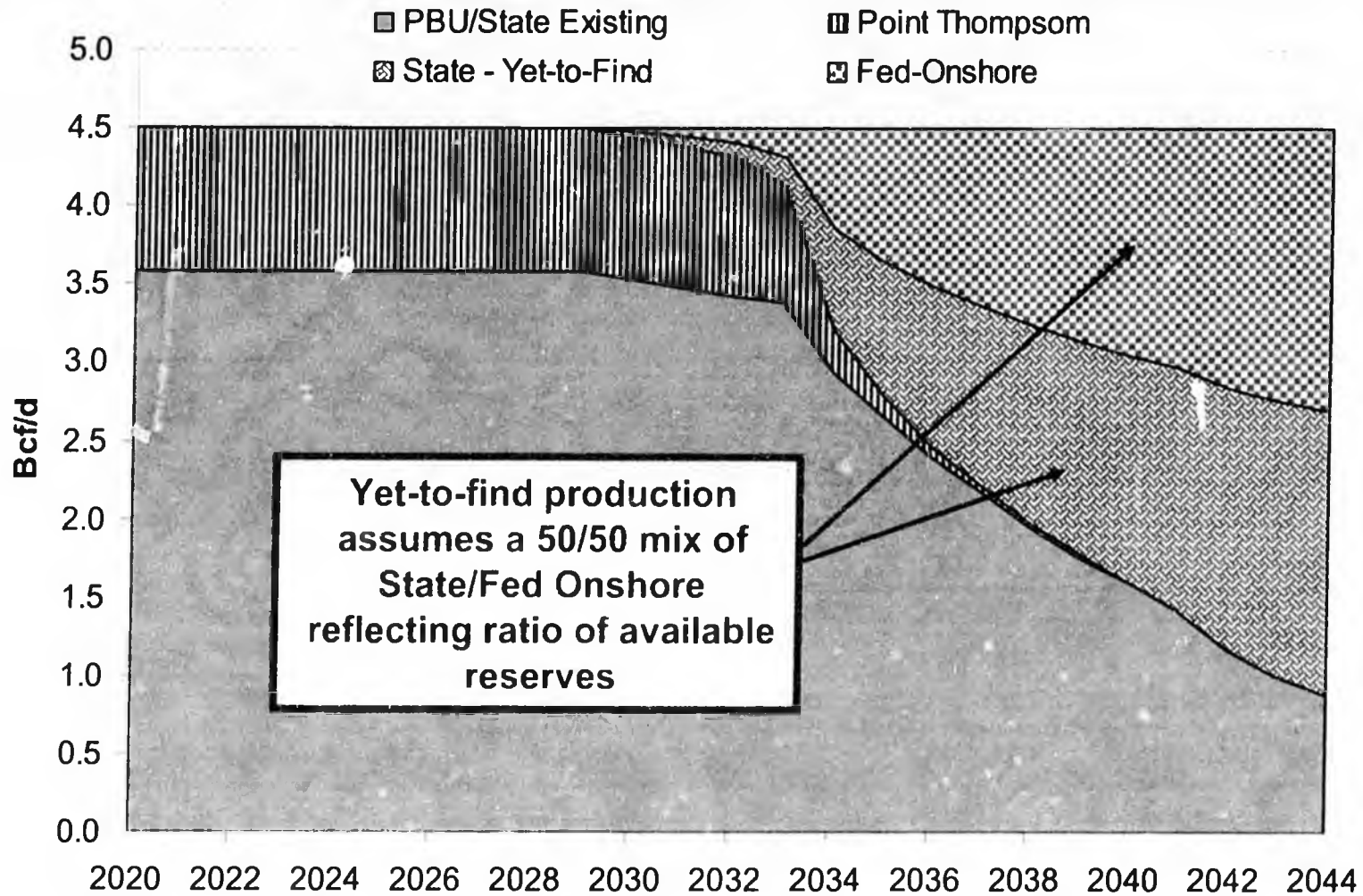


- Black & Veatch assumes that the majority of price risks comes from uncertainty in fundamental factors:
 - Finding & development costs
 - Technological improvement
 - LNG imports
 - Power generation demand
 - US industrial demand
 - CDN industrial demand

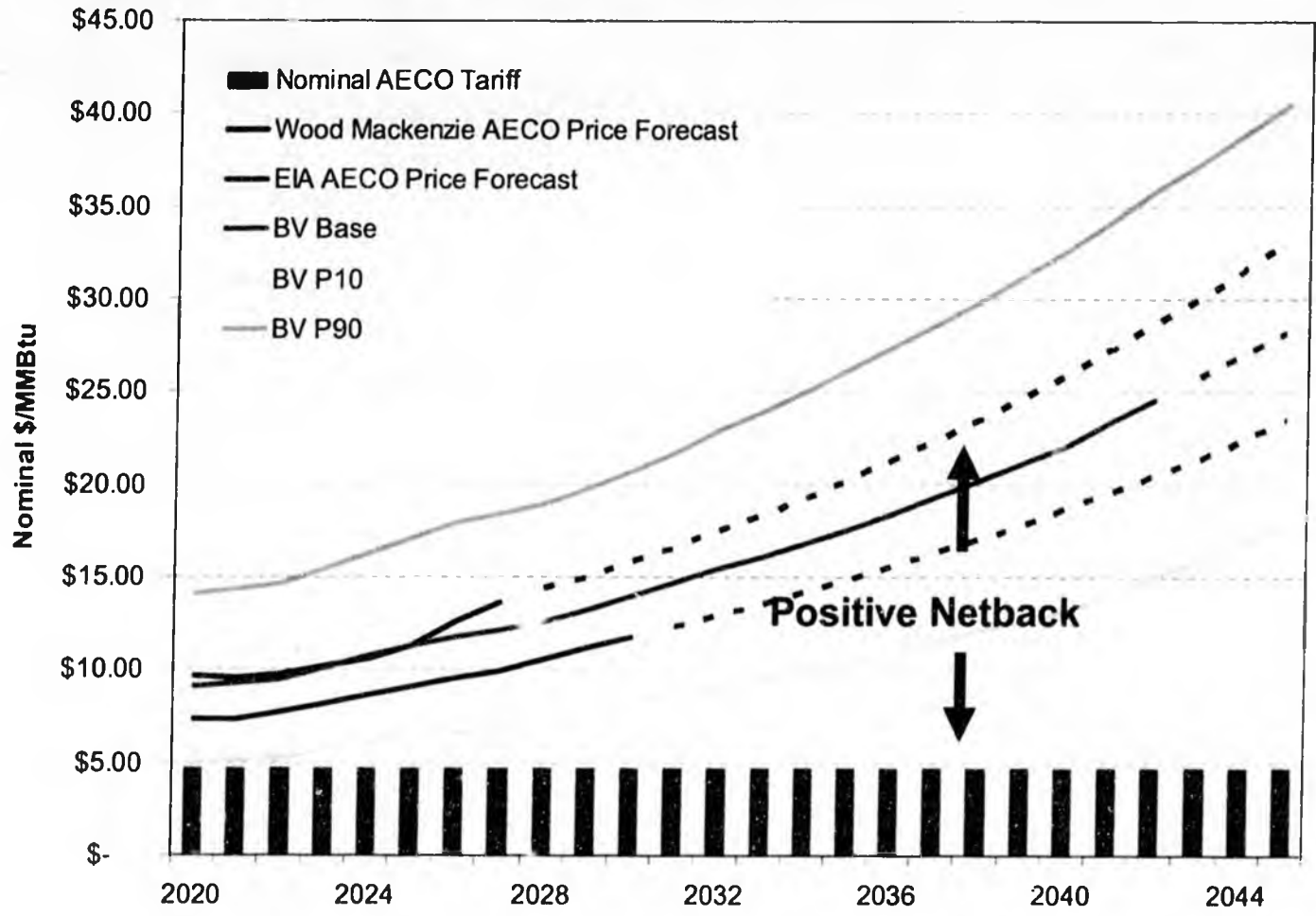
Real Price Growth at AECO is Expected Under All Price Forecast Scenarios due to Increasing Costs



Production Assumptions: 4.5 Bcf/d Proposal Base Case

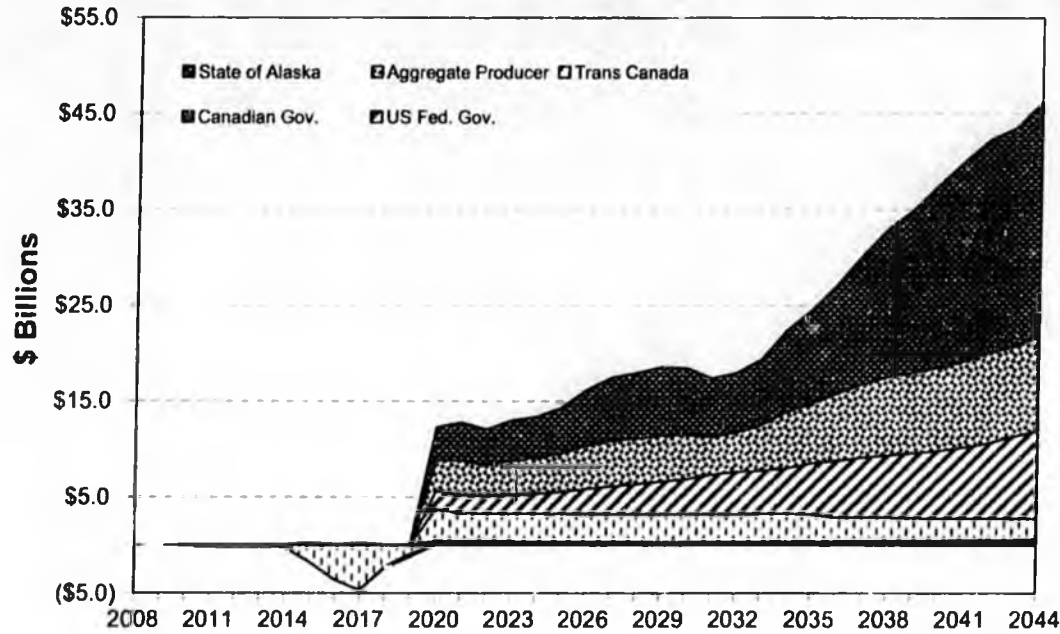


Positive Netbacks Are Expected Under All Price Forecasts



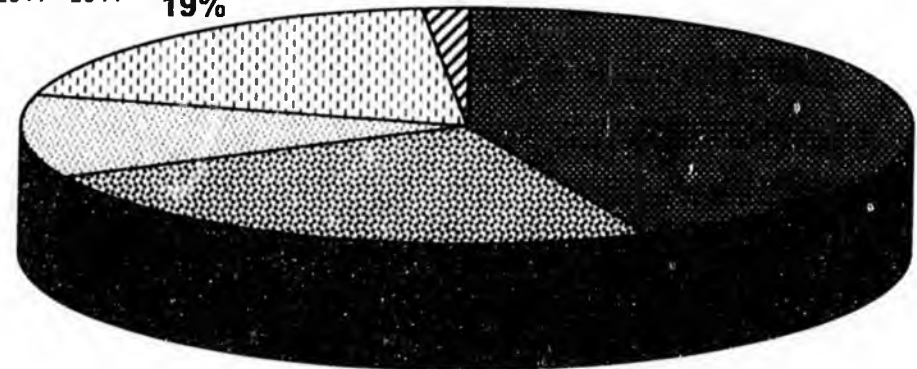
Cash flows from 4.5 Bcf/d Proposal Base Case

Cash Flows to Stakeholders



U.S. Gov	Canadian Gov.	State of Alaska
\$116	\$9	\$262
19%	2%	44%

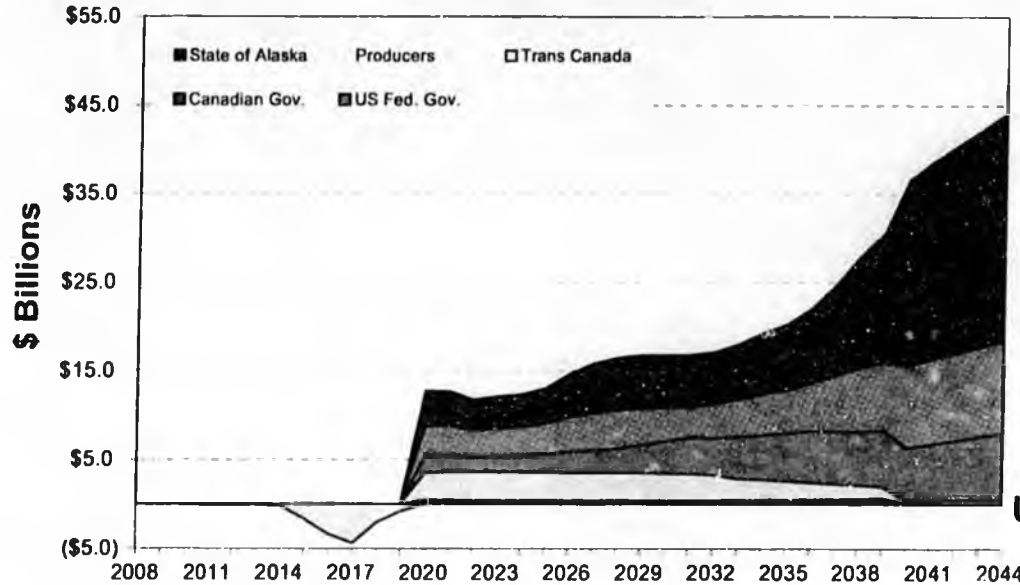
TransCanada
\$69
11%



Producer
\$148
24%

4.0 Bcf/d Conservative Base Case Cash Flows

Cash-flows to Stakeholders



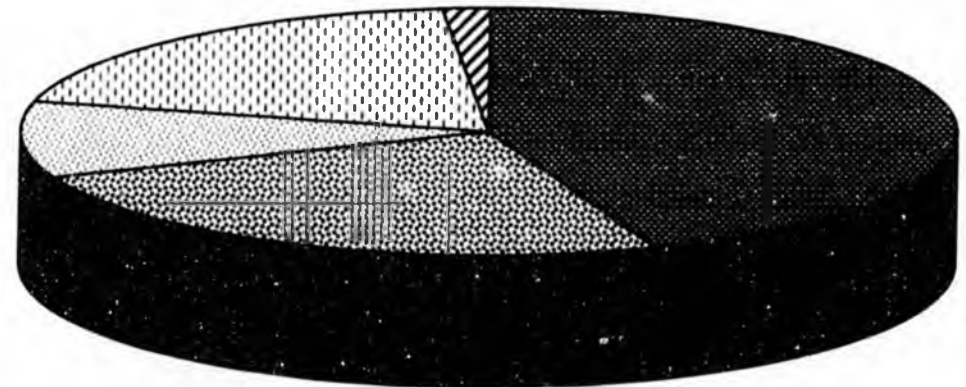
U.S. Gov
\$107
19%

Canadian Gov.
\$10
2%

State of Alaska
\$245
44%

TransCanada
\$55
10%

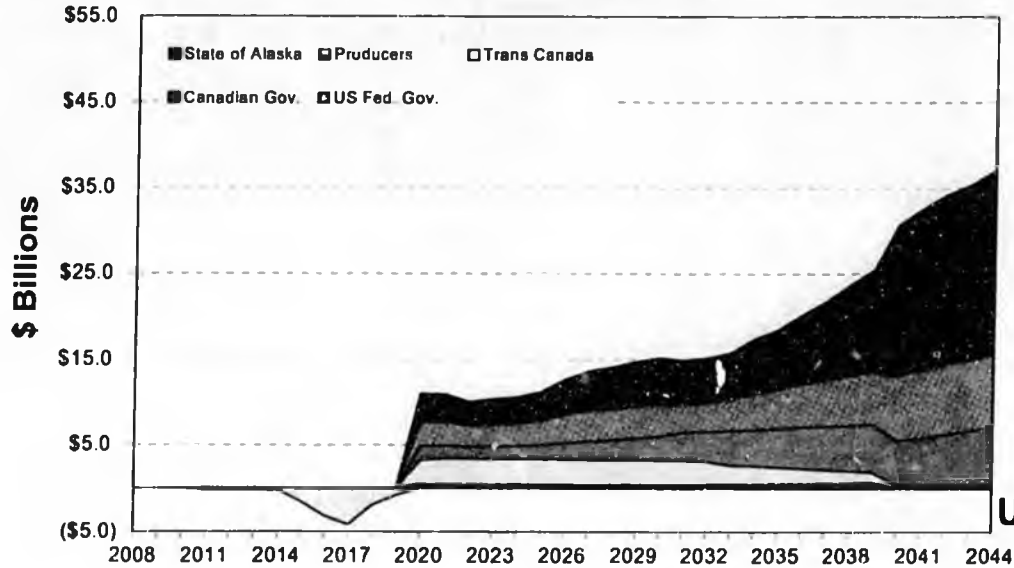
Producer
\$137
25%





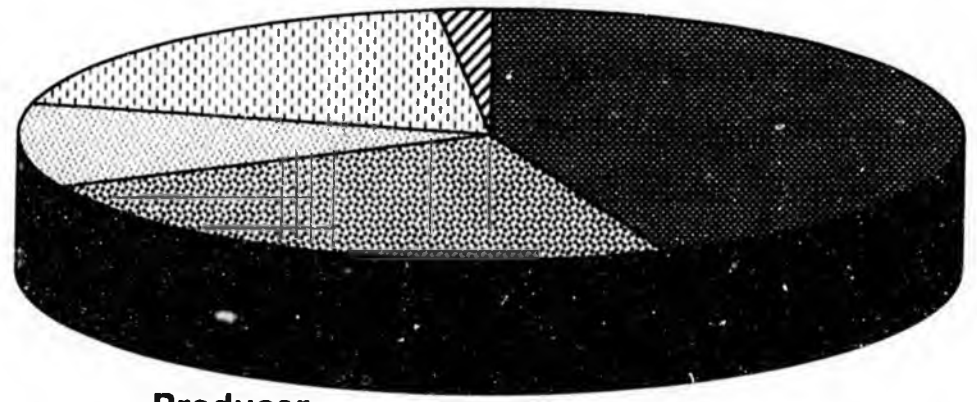
3.5 Bcf/d Low Volume Sensitivity Case

Cash-flows to Stakeholders



U.S. Gov	Canadian Gov.	State of Alaska
\$91	\$9	\$209
19%	2%	44%

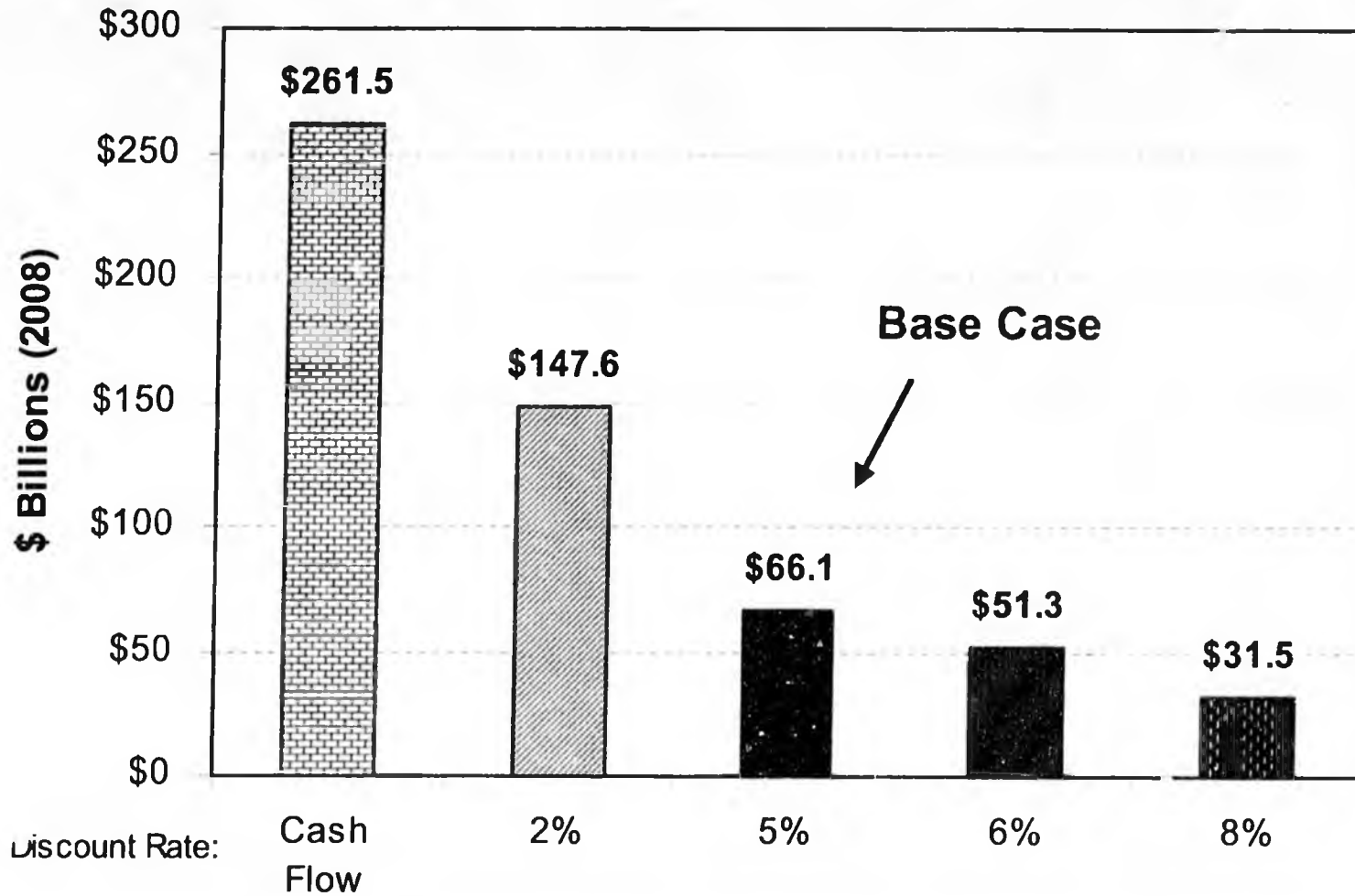
TransCanada
\$52
11%



Producer
\$116
24%

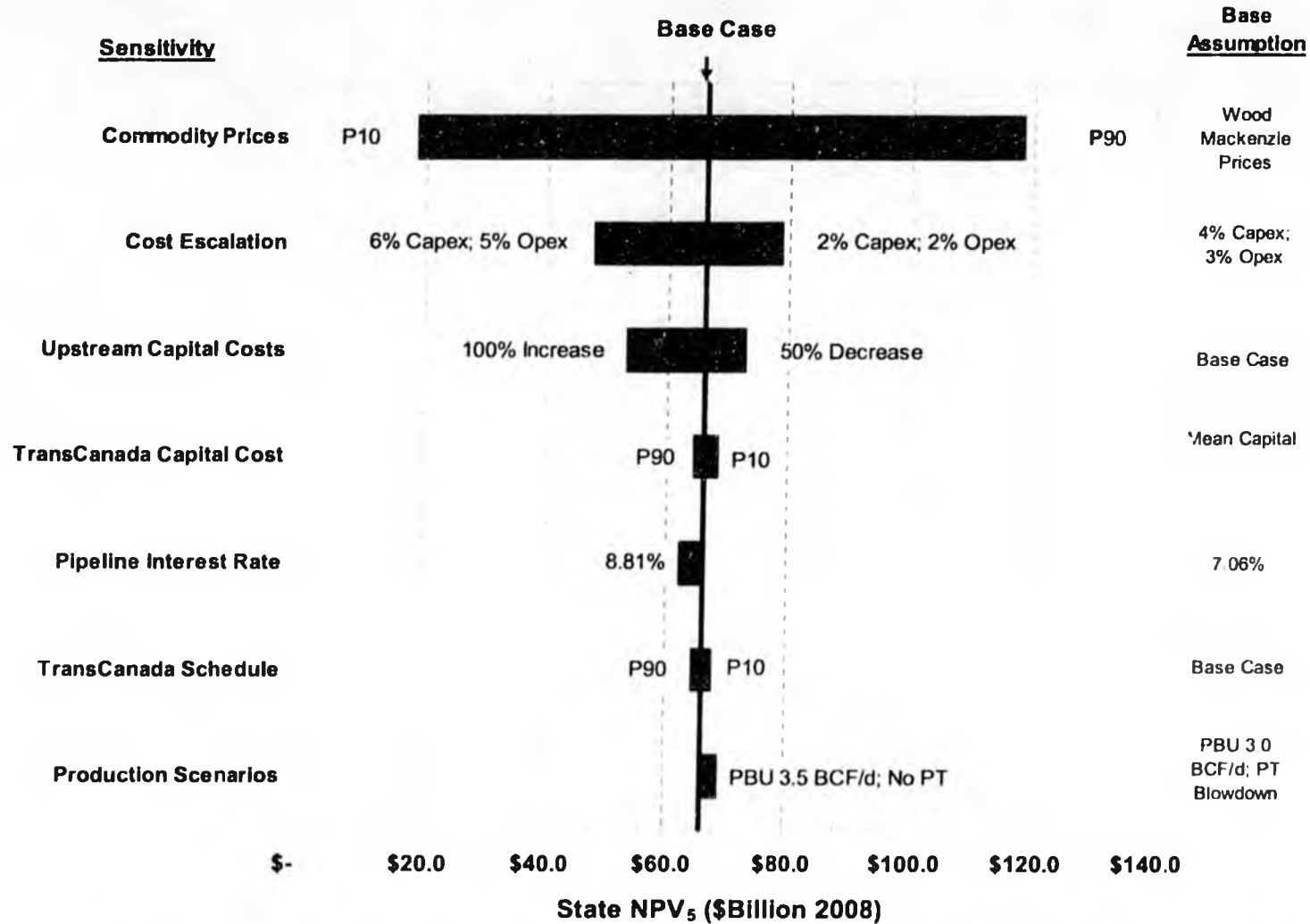


Expected State of Alaska NPV₅ is \$66.1 billion

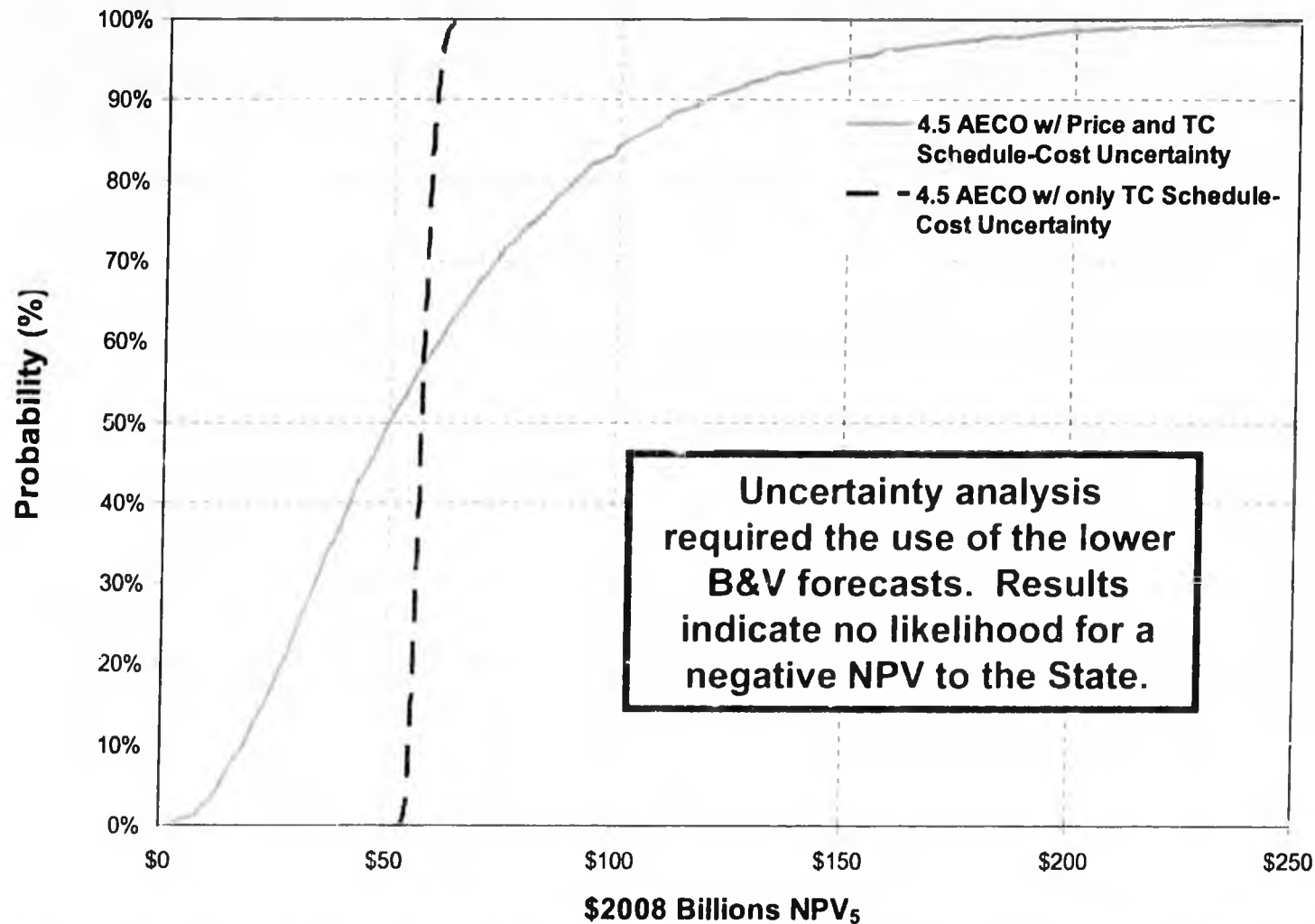




Price is a Key Driver to Variations in the NPV₅ to the State of Alaska



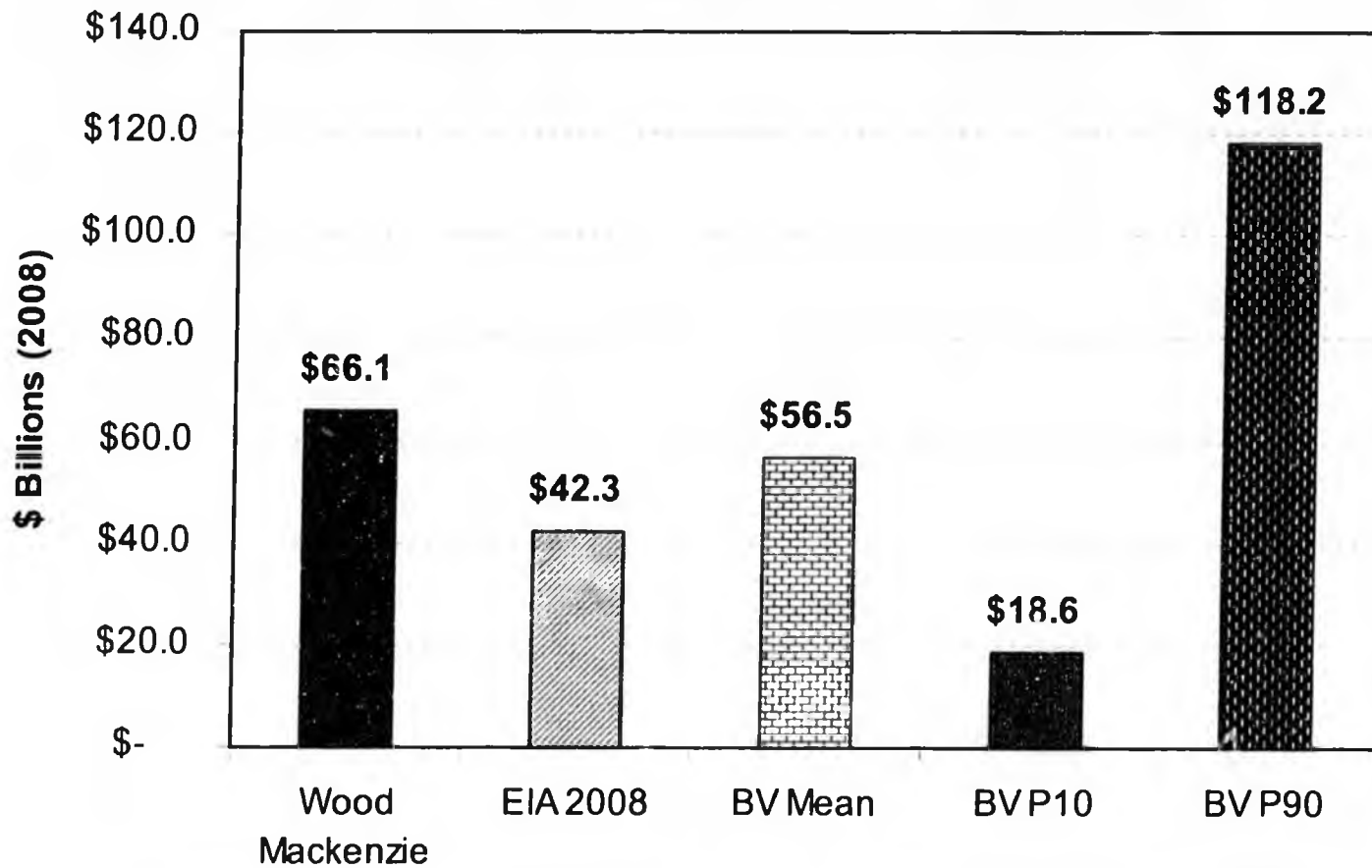
The impact from price uncertainty swamps estimated capital cost and schedule uncertainty.



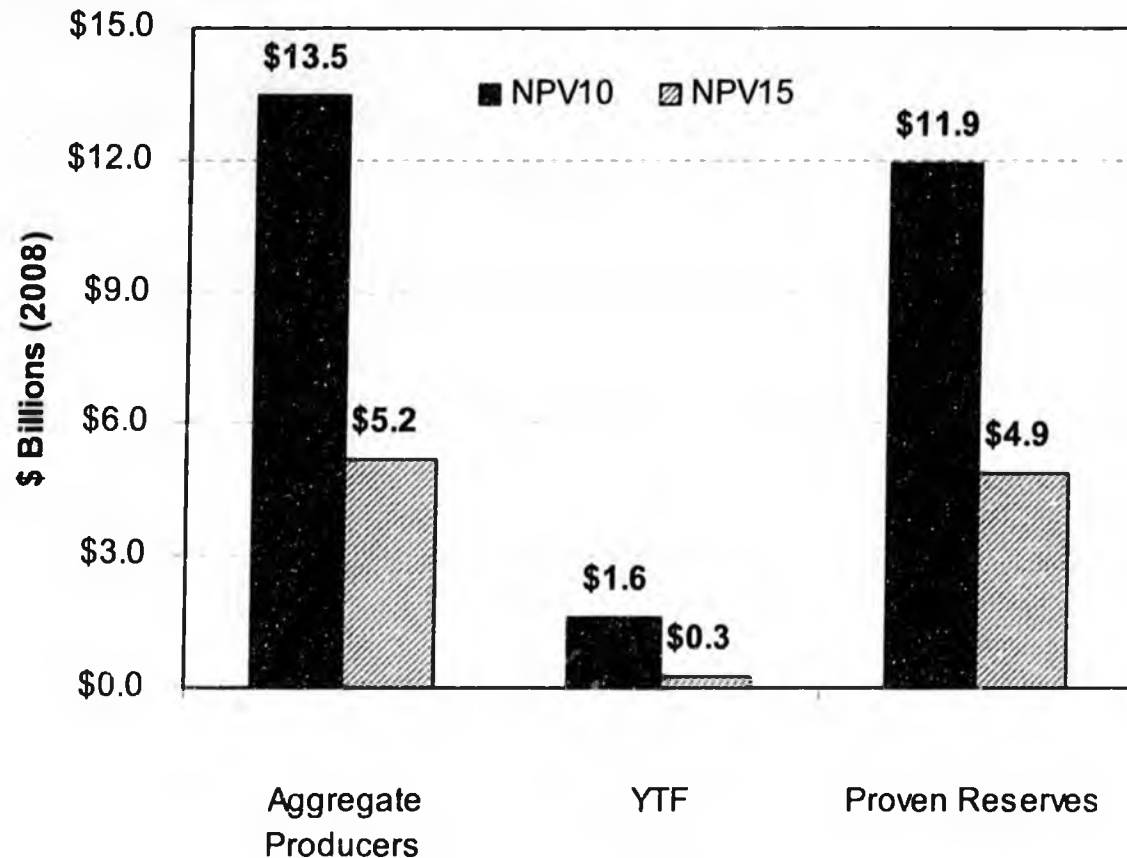


NPV for the State is Expected to be Positive Under all Price Scenarios

State NPV₅



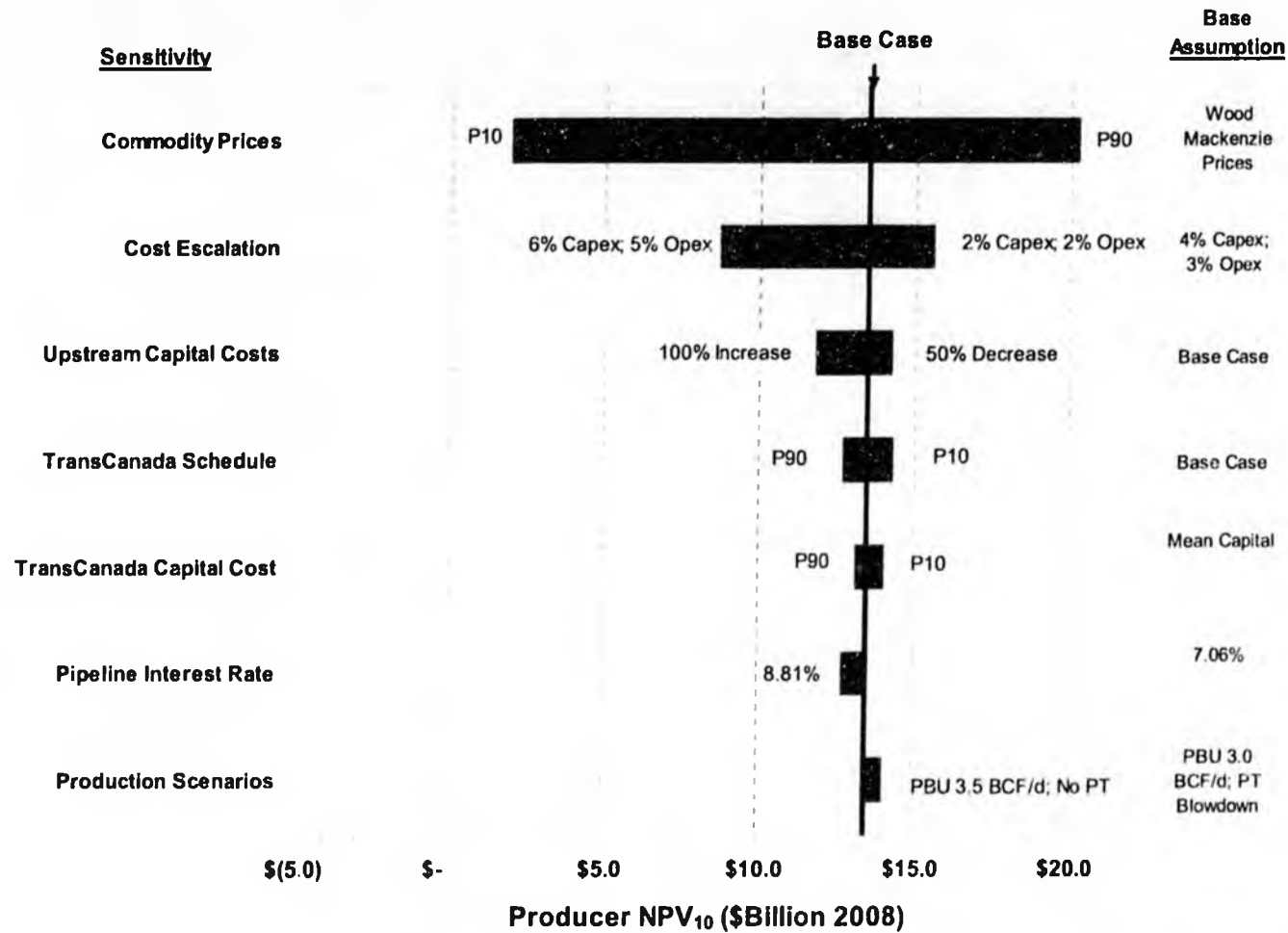
Like the State, NPV for the Producers is Expected to be Substantial under Base Case Assumptions



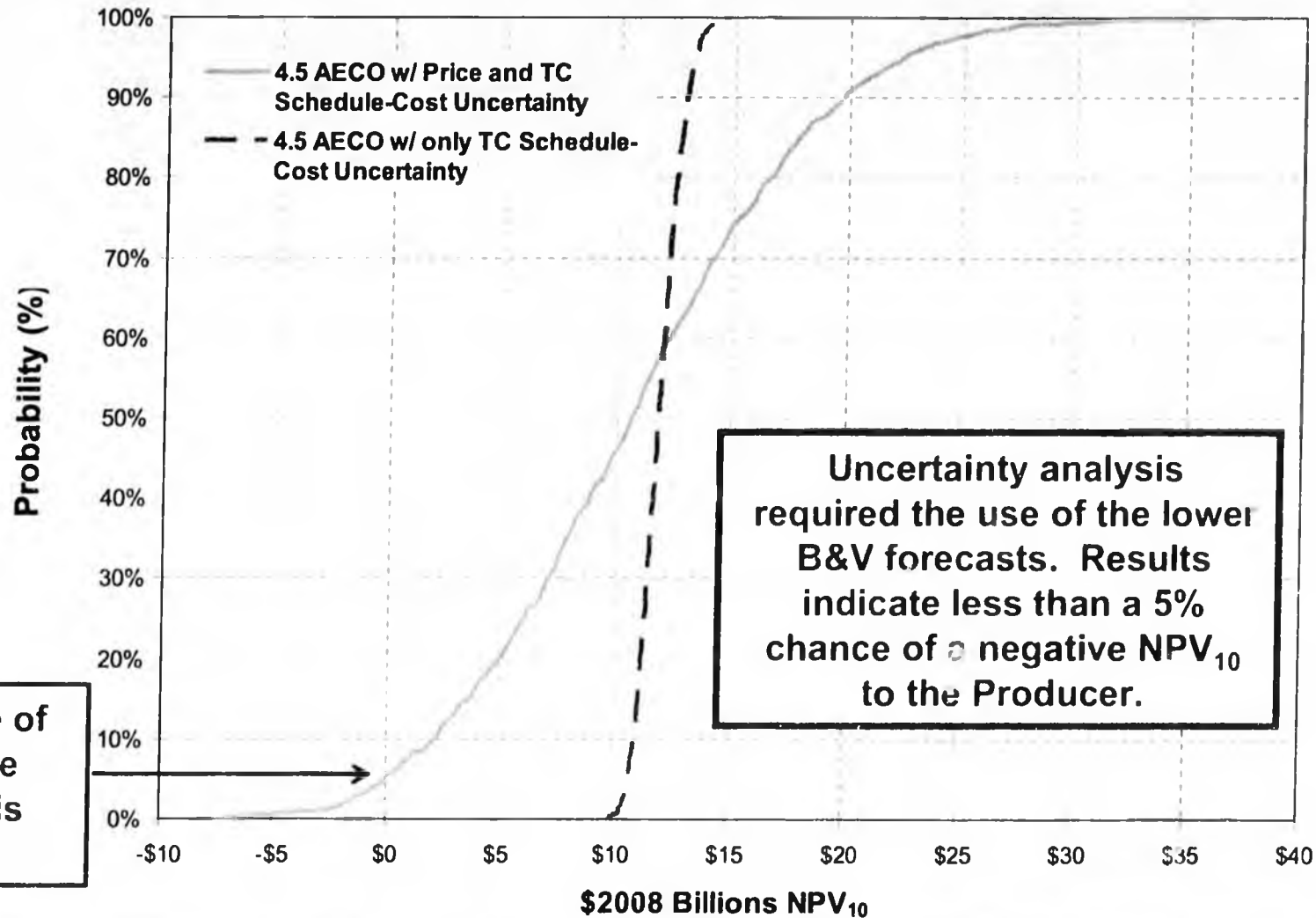
- Existing reserves provide the greatest amount of NPV benefit to the producers due to the low expected capital outlay required to flow into the Gasline.
- YTF NPV is understated due to the analysis life of 25 years. If the analysis is expanded to 35 years, YTF NPV improves to \$3.9 billion at a 10% discount rate.



Producer Sensitivity to Key Variables is Similar to the State



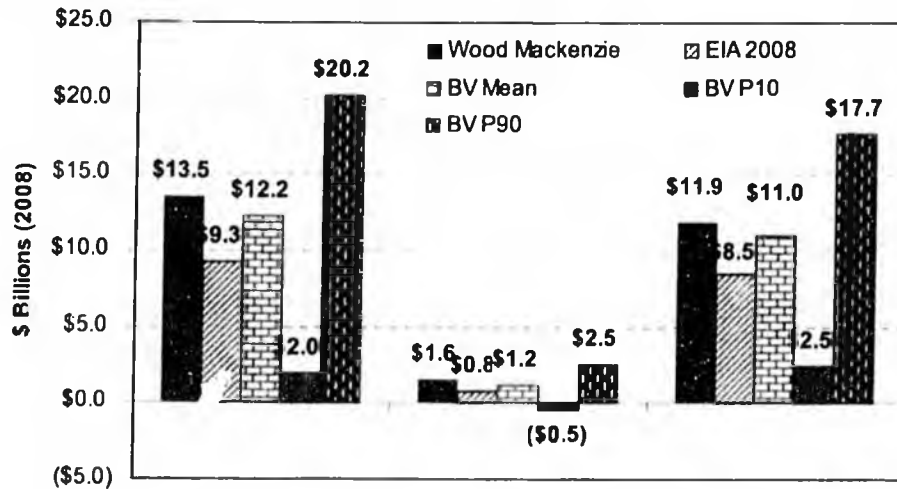
The producers have a very low likelihood for a negative NPV₁₀ from low prices, no likelihood from cost scope risk.





NPV for the Producers is Expected to be Positive Under all Price Scenarios

Producer NPV₁₀

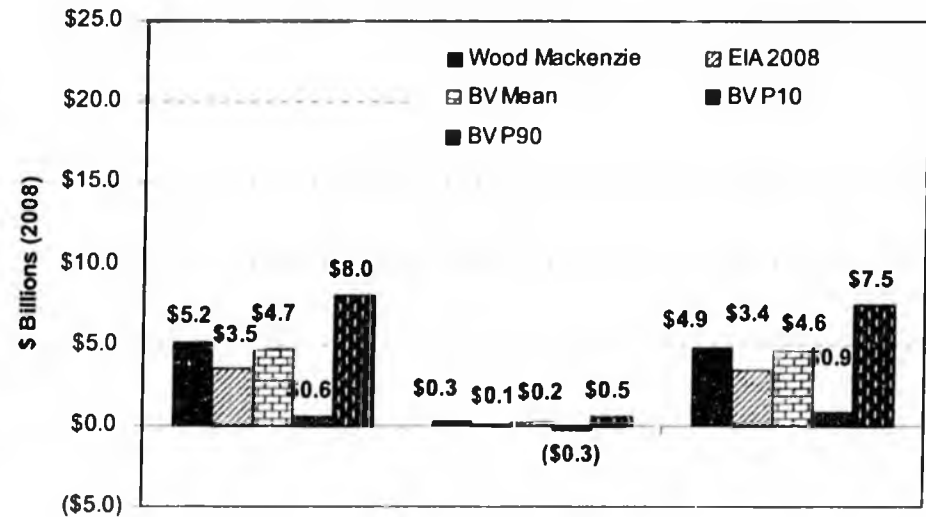


Aggregate Producers

YTF

Proven Reserves

Producer NPV₁₅



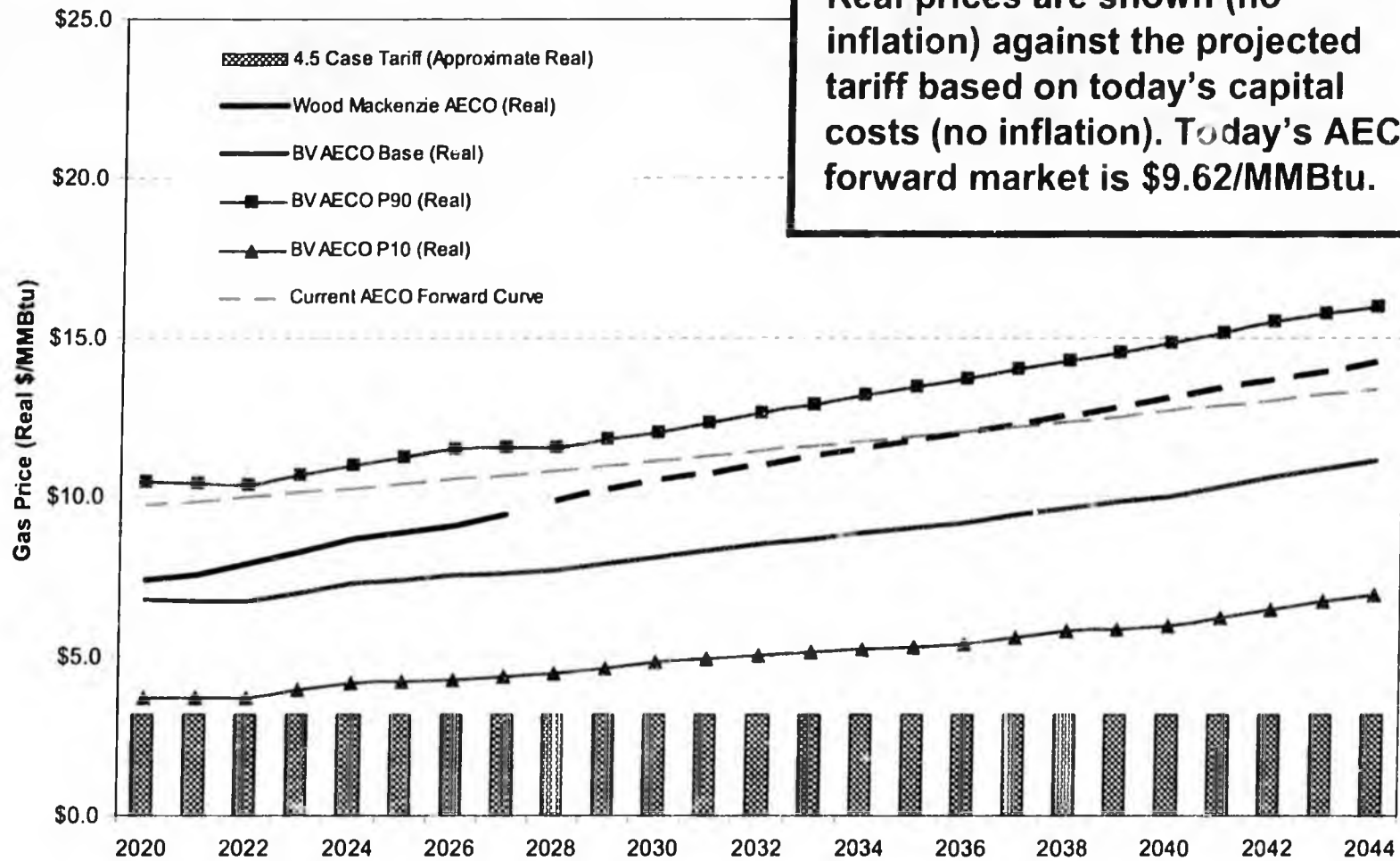
Aggregate Producers

YTF

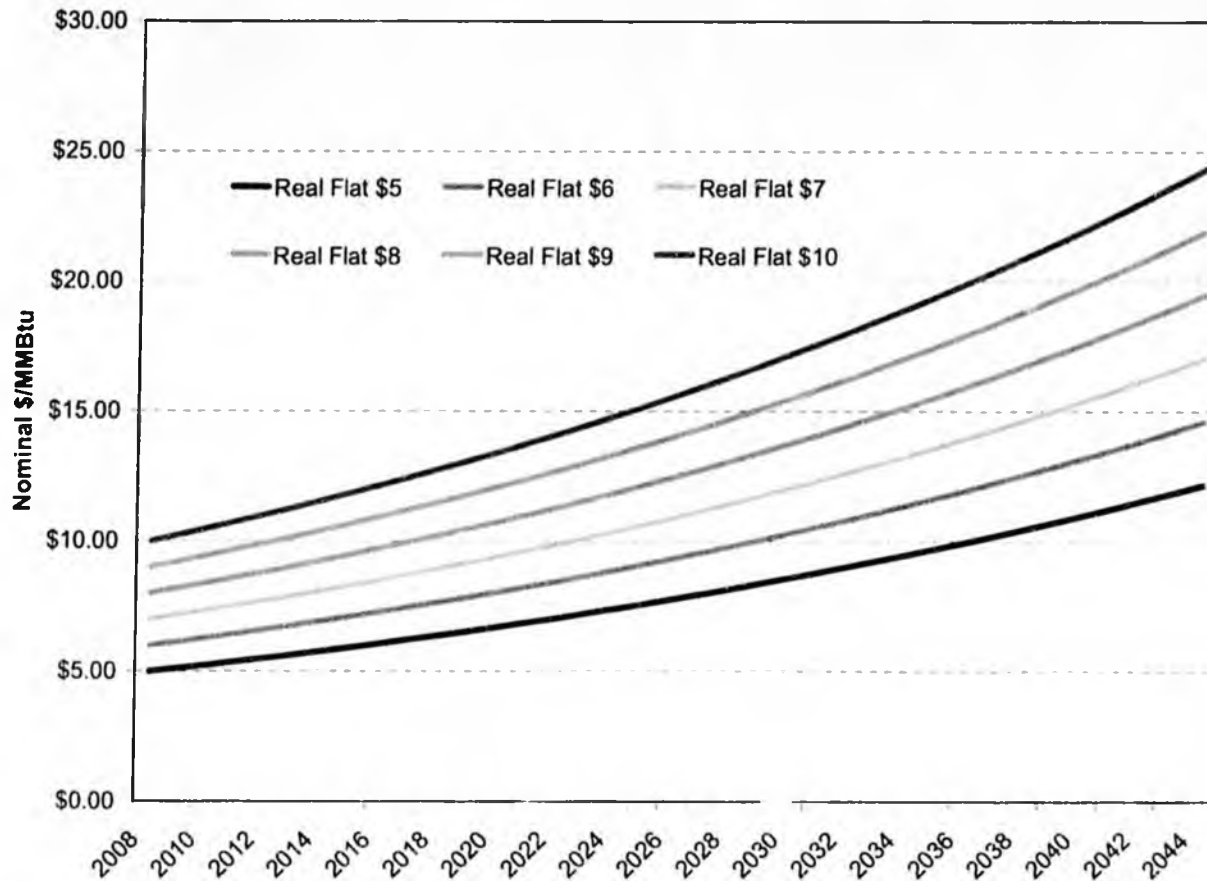
Proven Reserves



Project Cash Flows are Favorable if Built Today



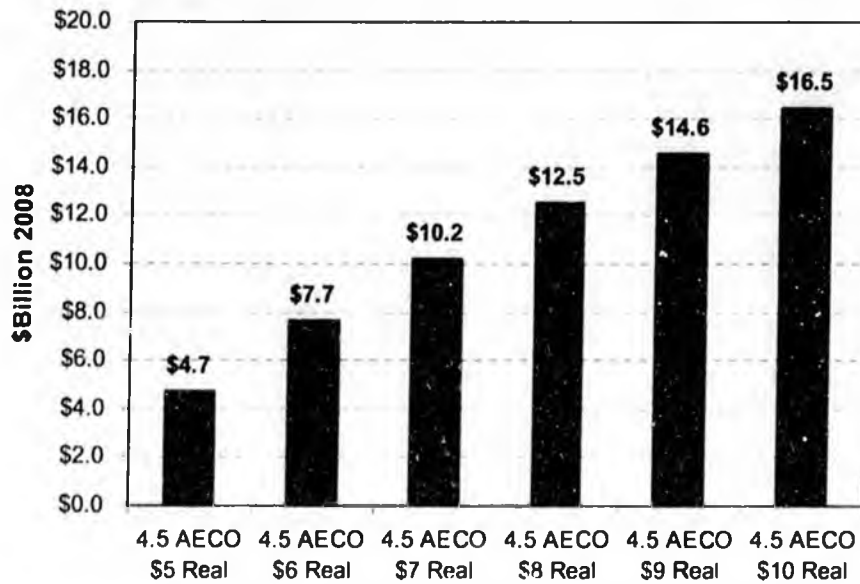
Analysis of Impact of Price Levels - Flat Real Prices



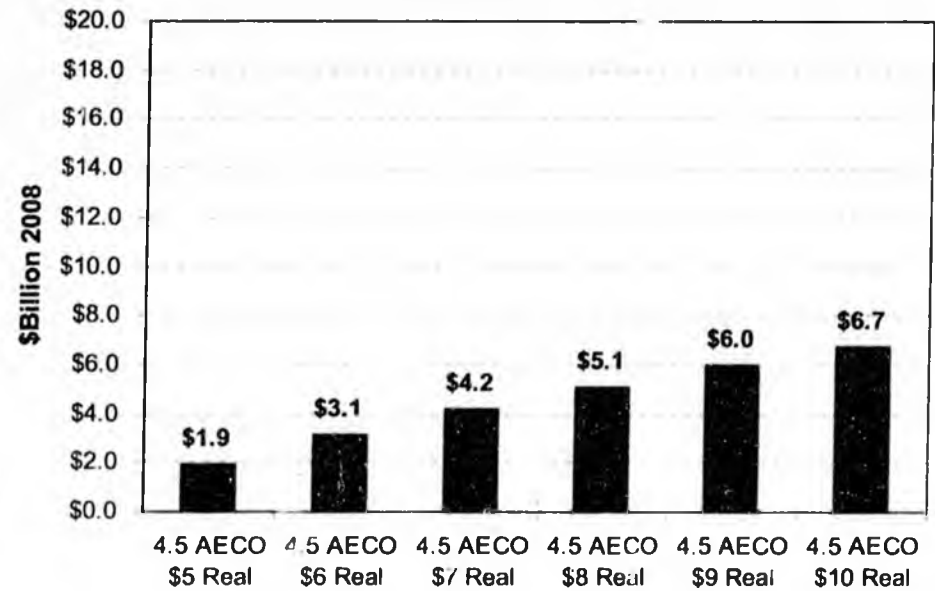
- Analysis investigated the impact of price levels on project economics
- Flat real prices levels from \$5/MMBtu to \$10/MMBtu were considered for natural gas price at AECO
- 2.5% inflation assumed to estimate dollars of the day prices

Price levels have a significant impact on Producer NPV. NPV₁₀ remains positive with real prices in \$5-\$10/MMBtu range.

Aggregate Producer NPV₁₀

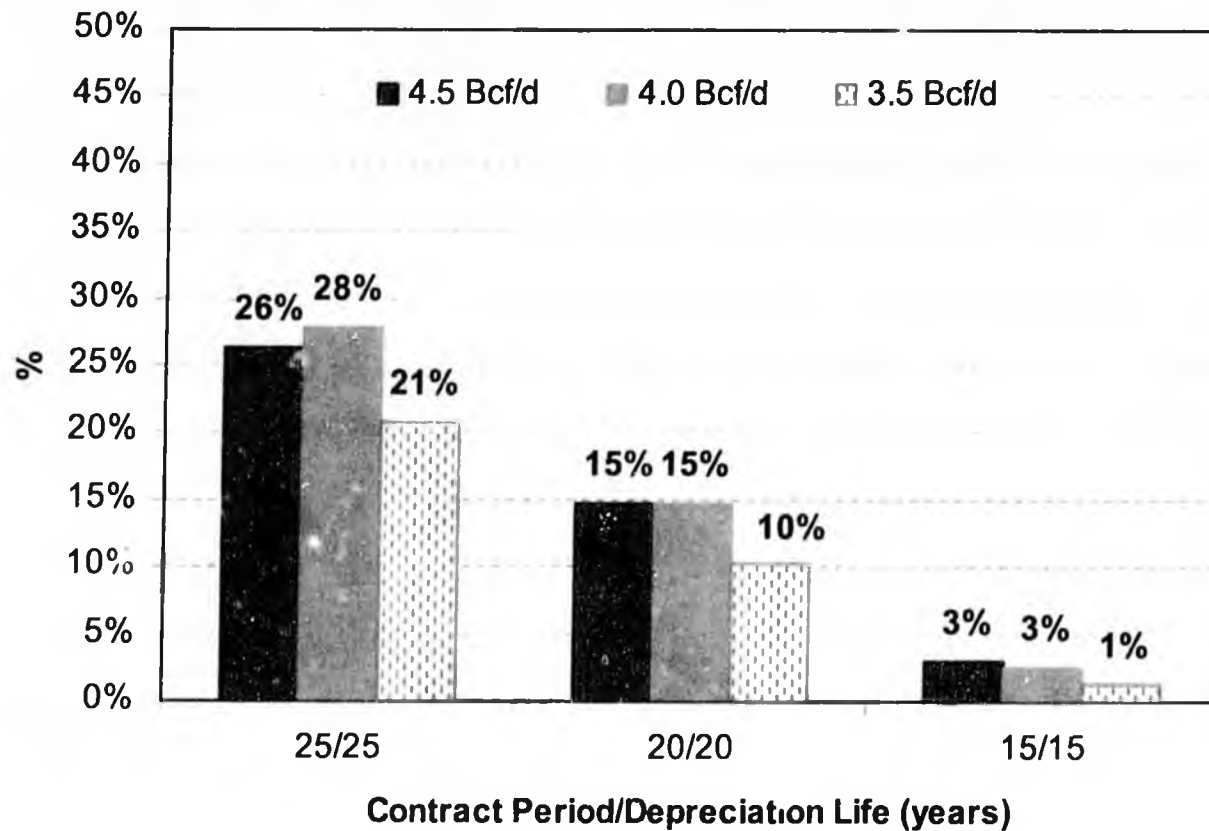


Aggregate Producer NPV₁₅



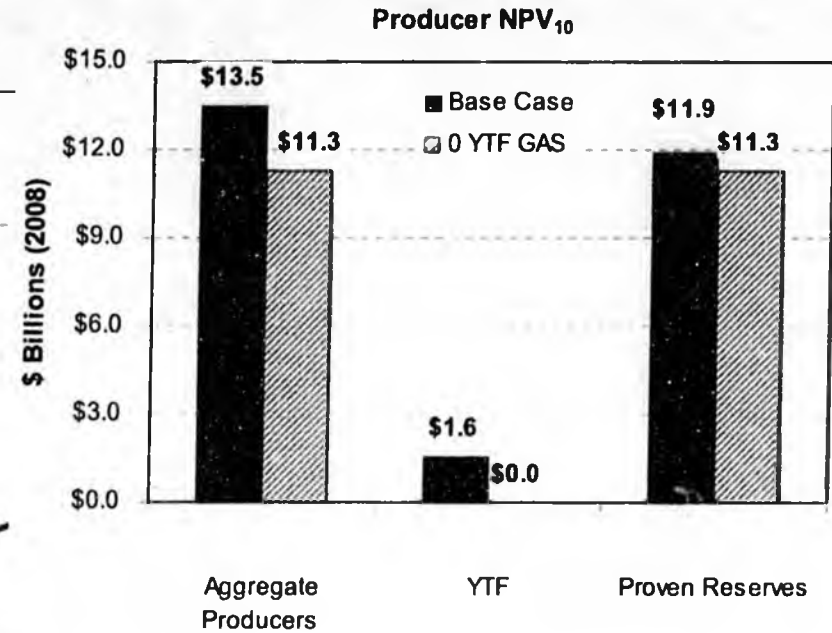
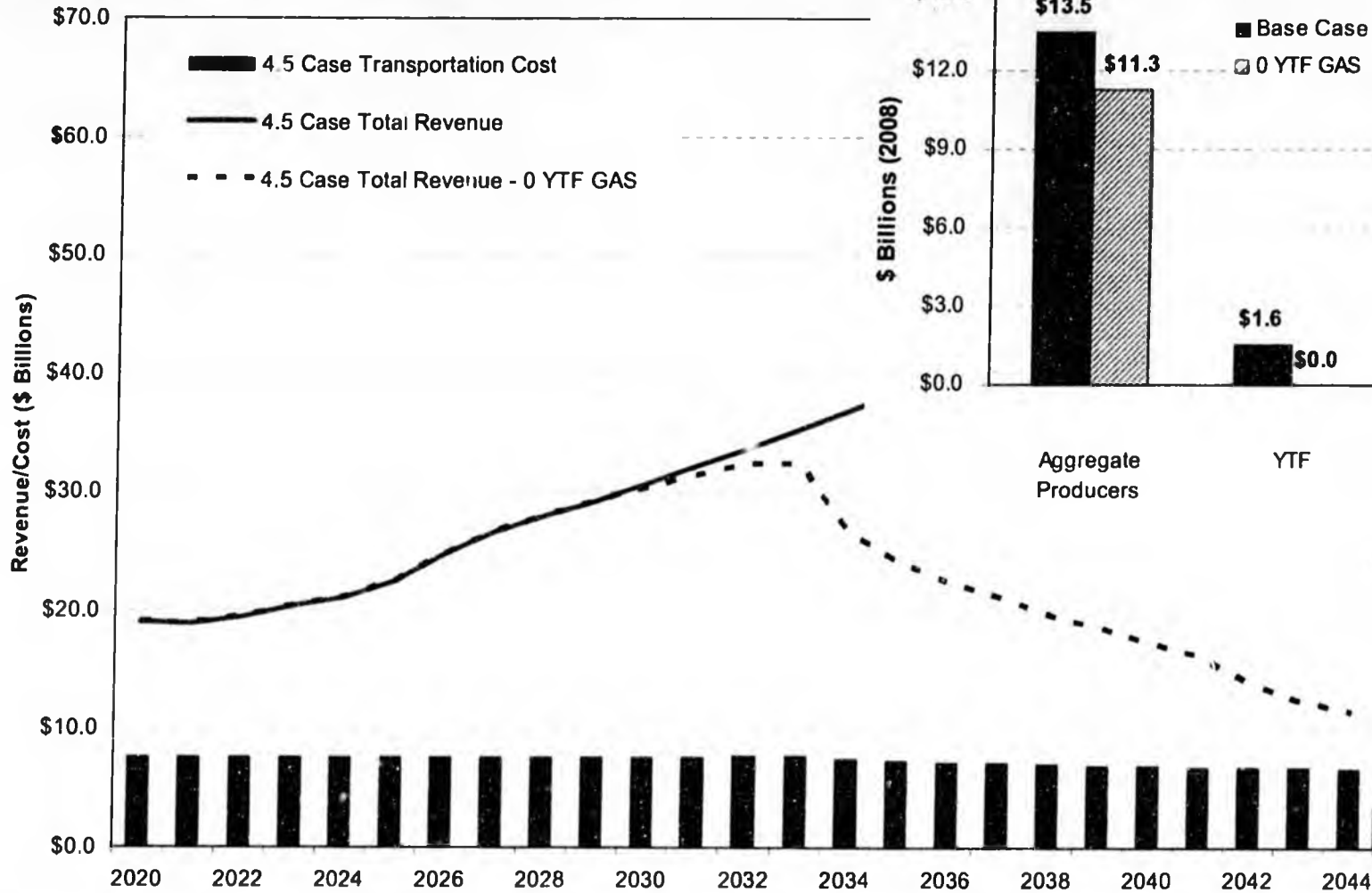
YTF Gas Required to Keep Pipeline Full under Different Contract Periods and for Different Pipeline Capacities

% of Contract Volume Requiring YTF Gas

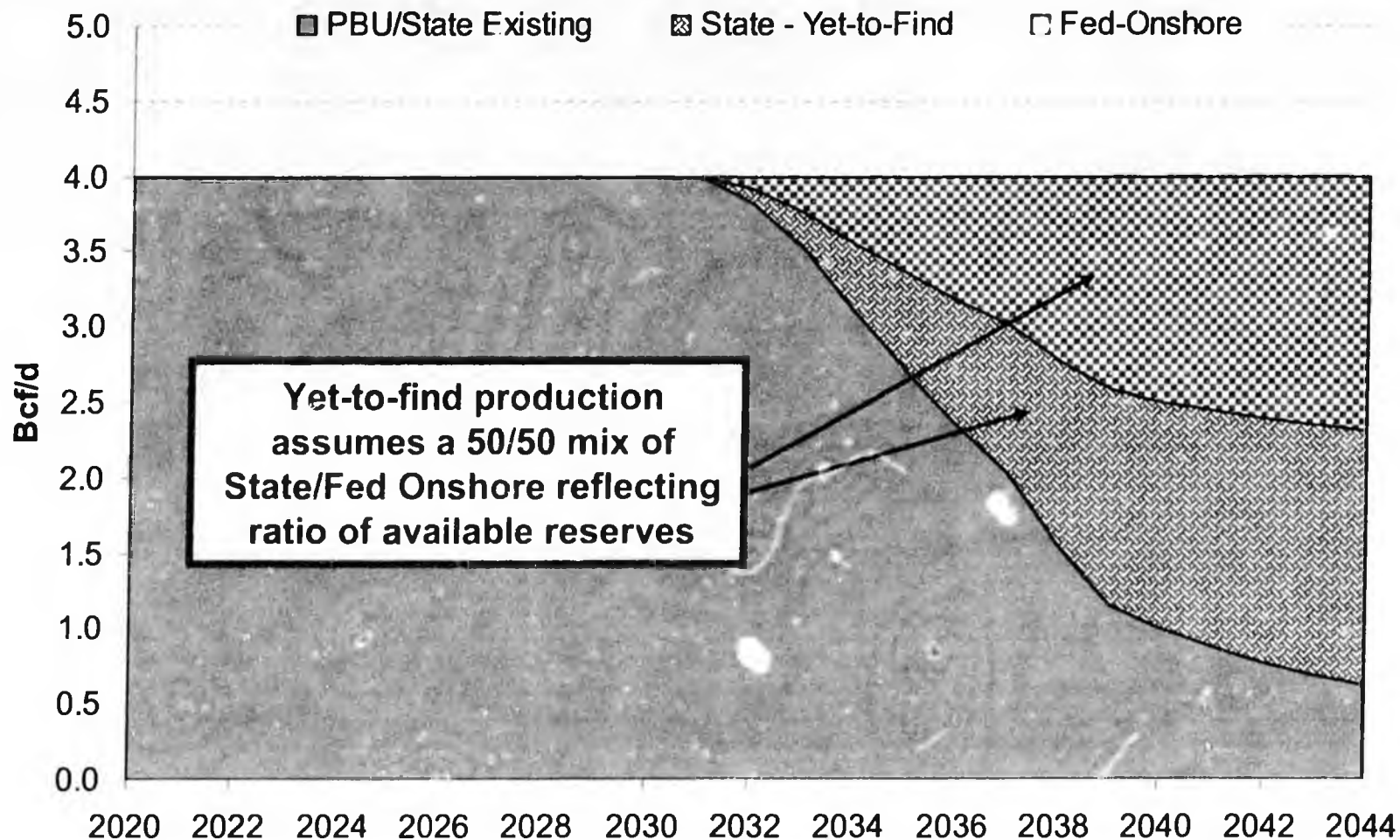




Producer NPV is Expected to Remain Positive if No YTF Gas is Produced

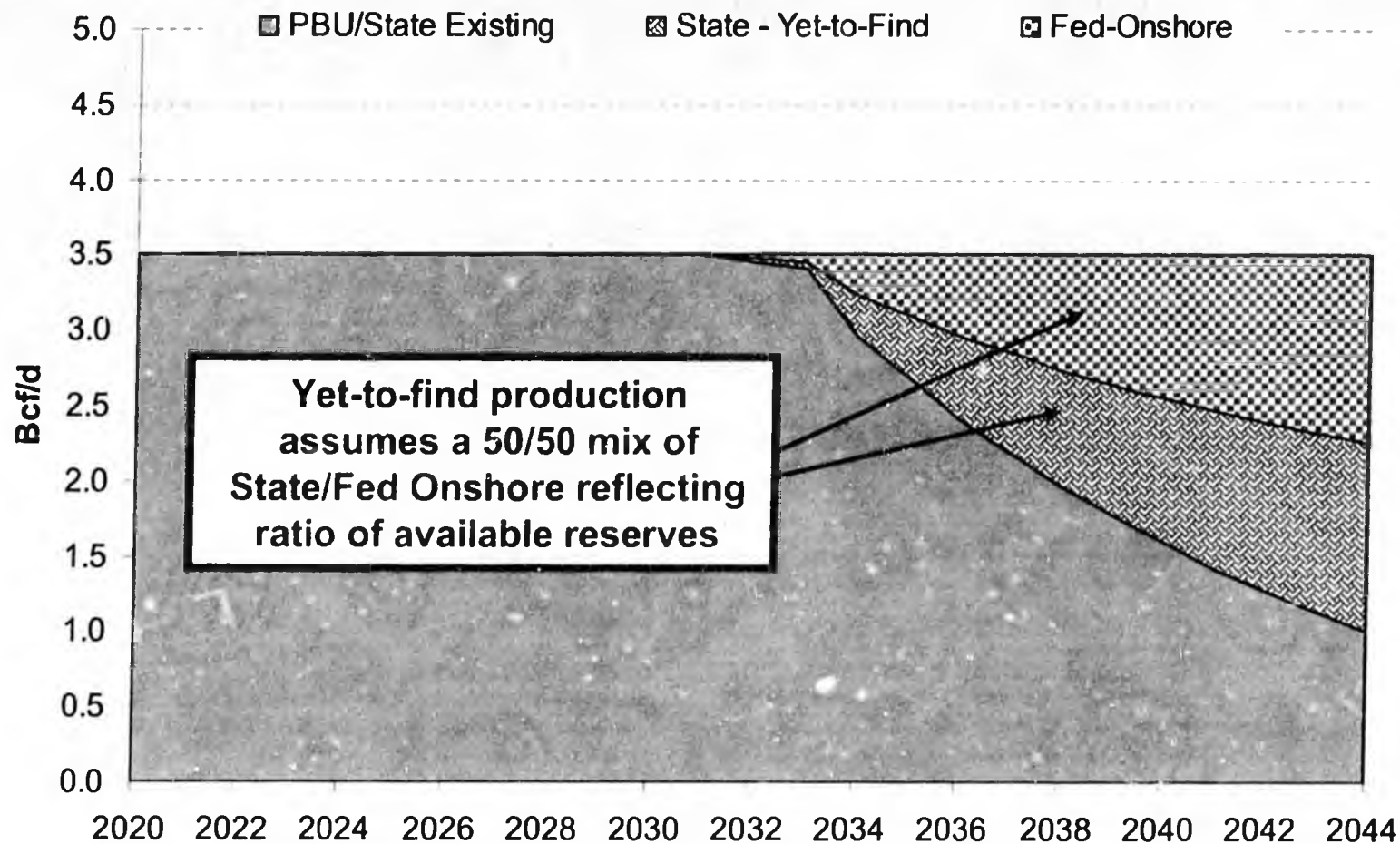


Production Assumptions: 4.0 Bcf/d Case

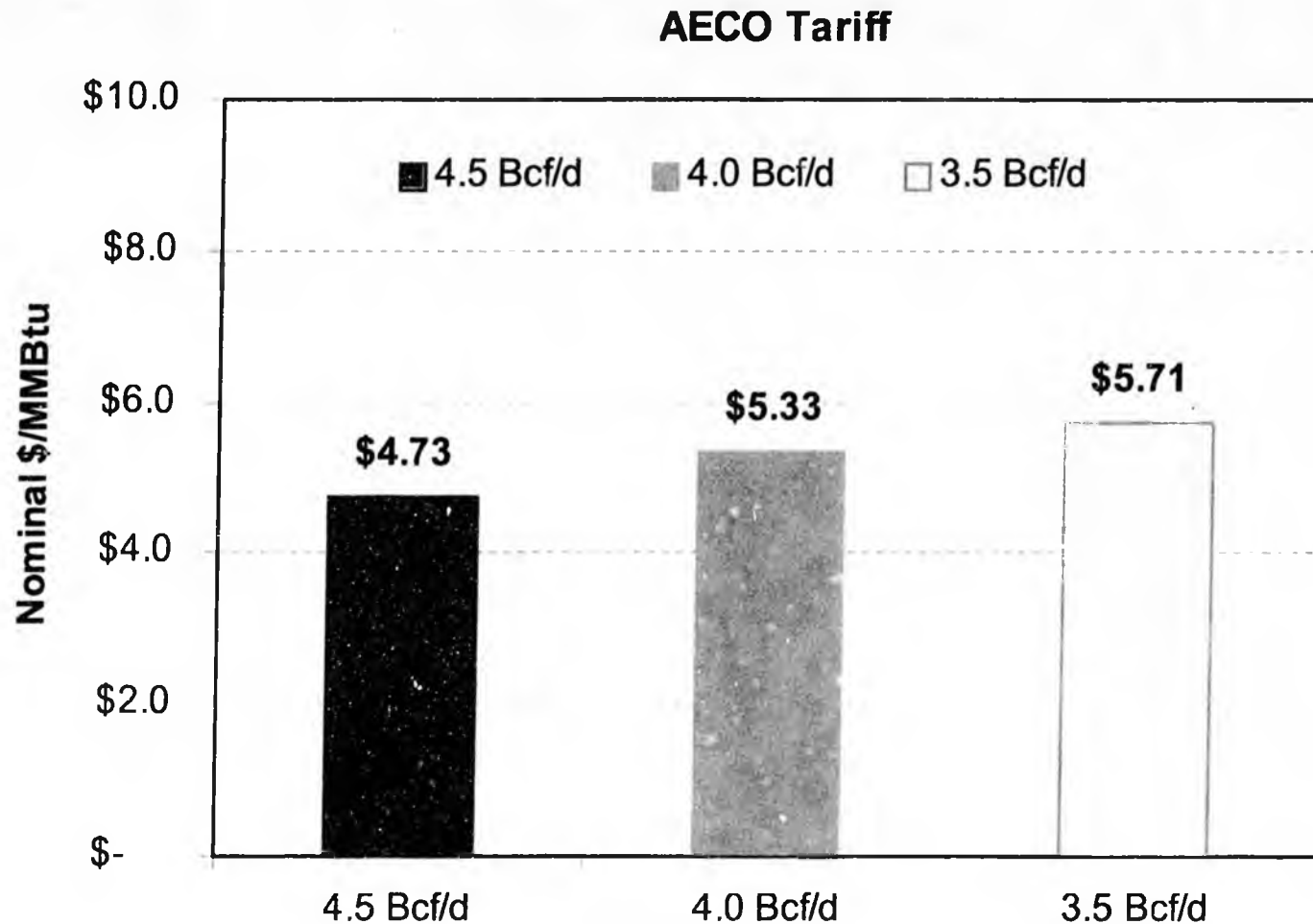




Production Assumptions: 3.5 Bcf/d Case

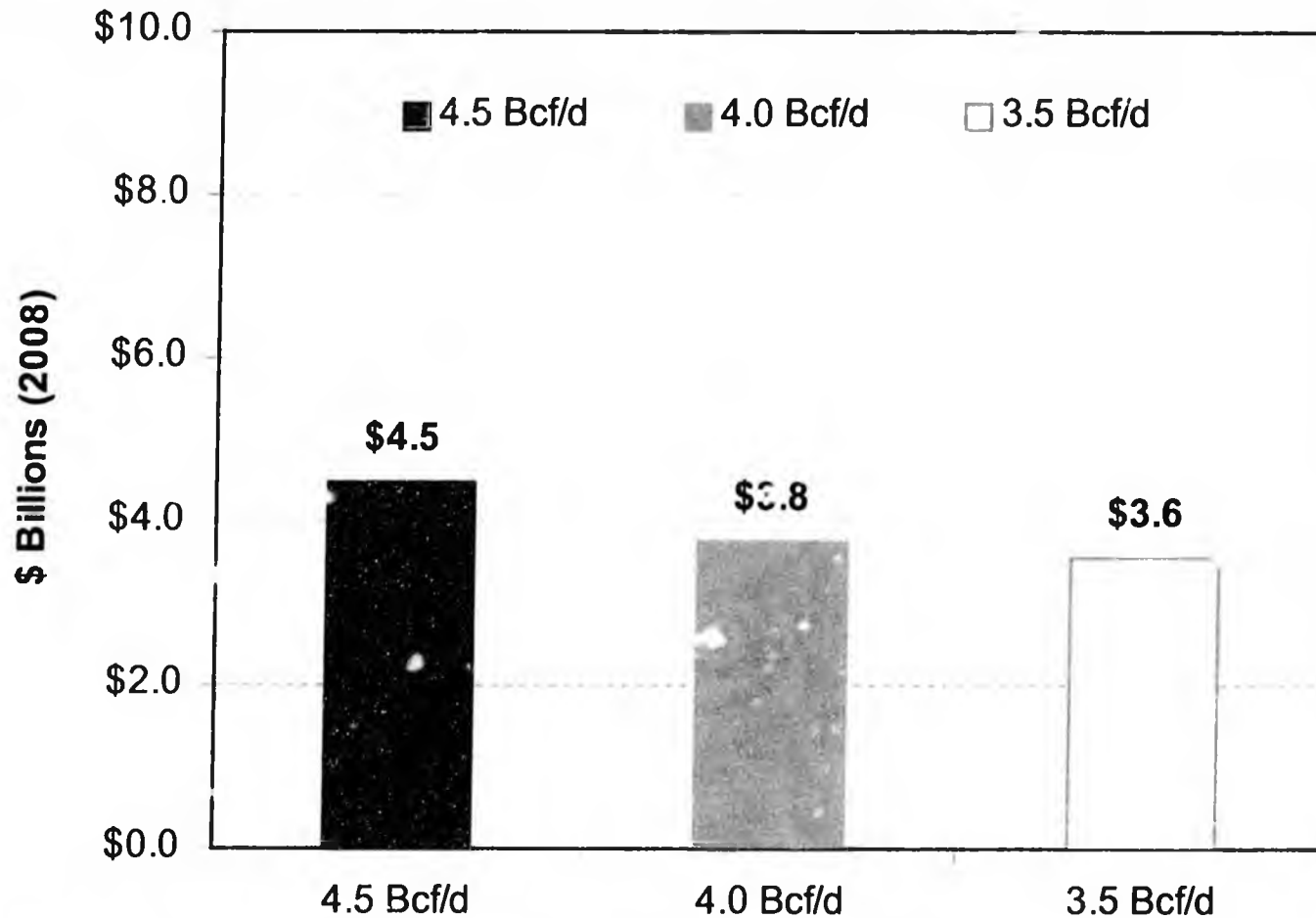


Expected Tariffs from the North Slope to the AECO Market



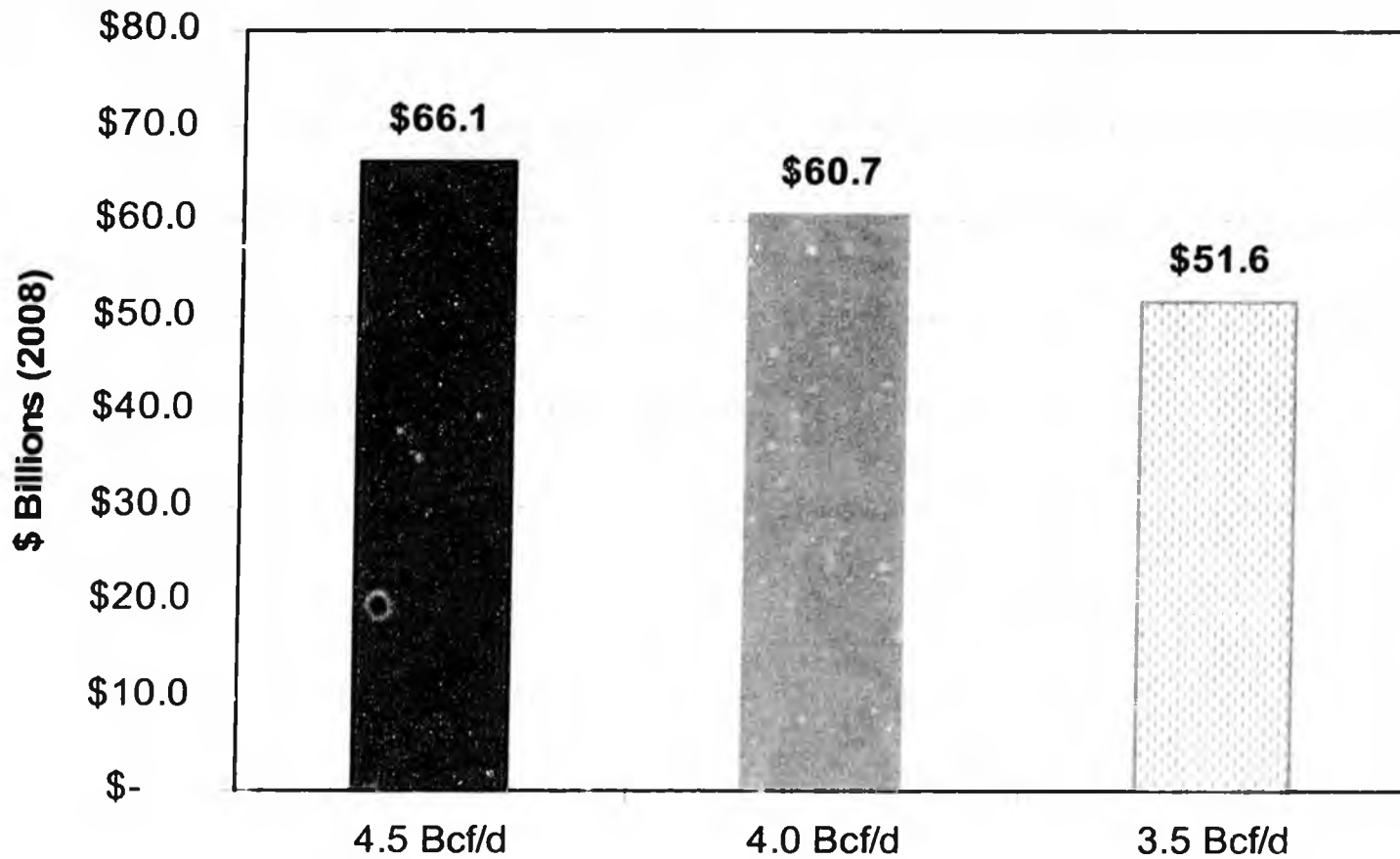
TransCanada NPV_{8.8} is Significant under Proposed Terms and Base Case Assumptions

TransCanada NPV_{8.8}



The State's NPV₅ Project is Lower with Lower Project Capacity but Remains Significant

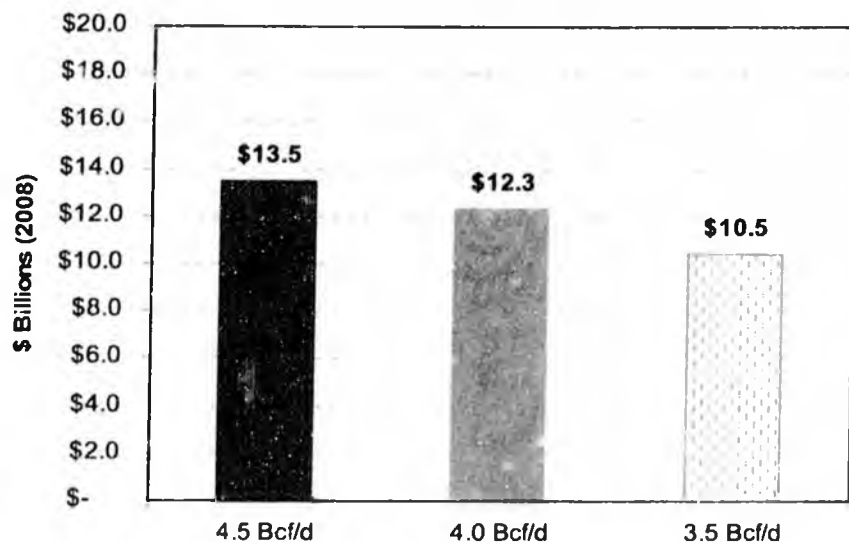
State NPV₅



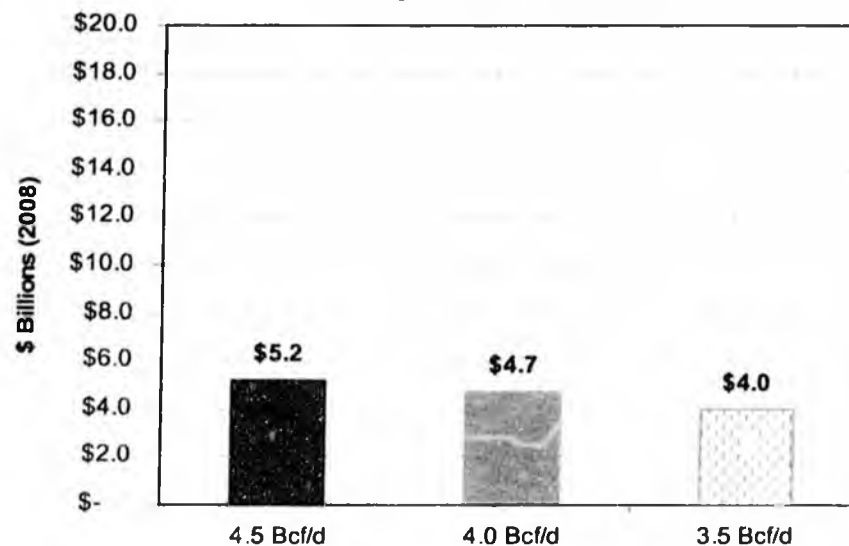


Producer NPV Shows a Similar Trend When Compared to the State and TransCanada

Aggregate Producer NPV₁₀



Aggregate Producer NPV₁₅



Why does a delay increase State NPV₅?

- Why does a delay increase State NPV₅?
 - Prices increase
 - Progressivity for production taxes increases as prices rise
 - Production Tax in 2020 = ~25%
 - Production Tax in 2045 = ~50%
- Could a delay cause a decrease in the State NPV₅?
 - Yes, if prices increase at a lower rate than the baseline Wood Mackenzie prices, then a project delay would cause a decrease in the State NPV₅



Alaska Gasline Port Authority

Presentation to the Alaska Legislature

June 12, 2008