



Northern Gas Cost of Supply Comparison

April 6, 2010





Cost of Supply Comparison

- **One of the key determinants on whether the Mackenzie Valley Pipeline will be constructed is whether the existing gas resources in the North can be economically produced compared to other sources of natural gas**
- **If Northern gas is cost competitive with other basins in North America, then there will be an economic rationale for completing the pipeline**
- **The charts on pages 3 and 4 outline the different cost structures between Northern gas and Western Canada gas**
 - The charts indicate that Northern gas has lower F&D, operating costs and royalties but a higher transportation cost
- **The graph on page 5 illustrates that, based on the anchor fields and MGM Energy's cost assumptions, existing discoveries in the Mackenzie Delta are competitive with other gas basins in North America**
- **The information on pages 6 through 13 provides back-up for the assumptions about Northern gas costs and historical information about the costs of Western Canada gas**



Northern Gas vs. Western Canada Gas

Cost Item	Comparison	Rationale
Finding & Development	Northern gas lower	Discoveries are much larger in the North
Operating Costs	Northern gas lower	Pool sizes are much larger, resulting in economies of scale
Transportation	Northern gas higher	Cost of pipeline from NWT to Alberta
Royalties	Northern gas lower	Capital costs recovered and royalty rates lower in North



Comparative Cost of Supply

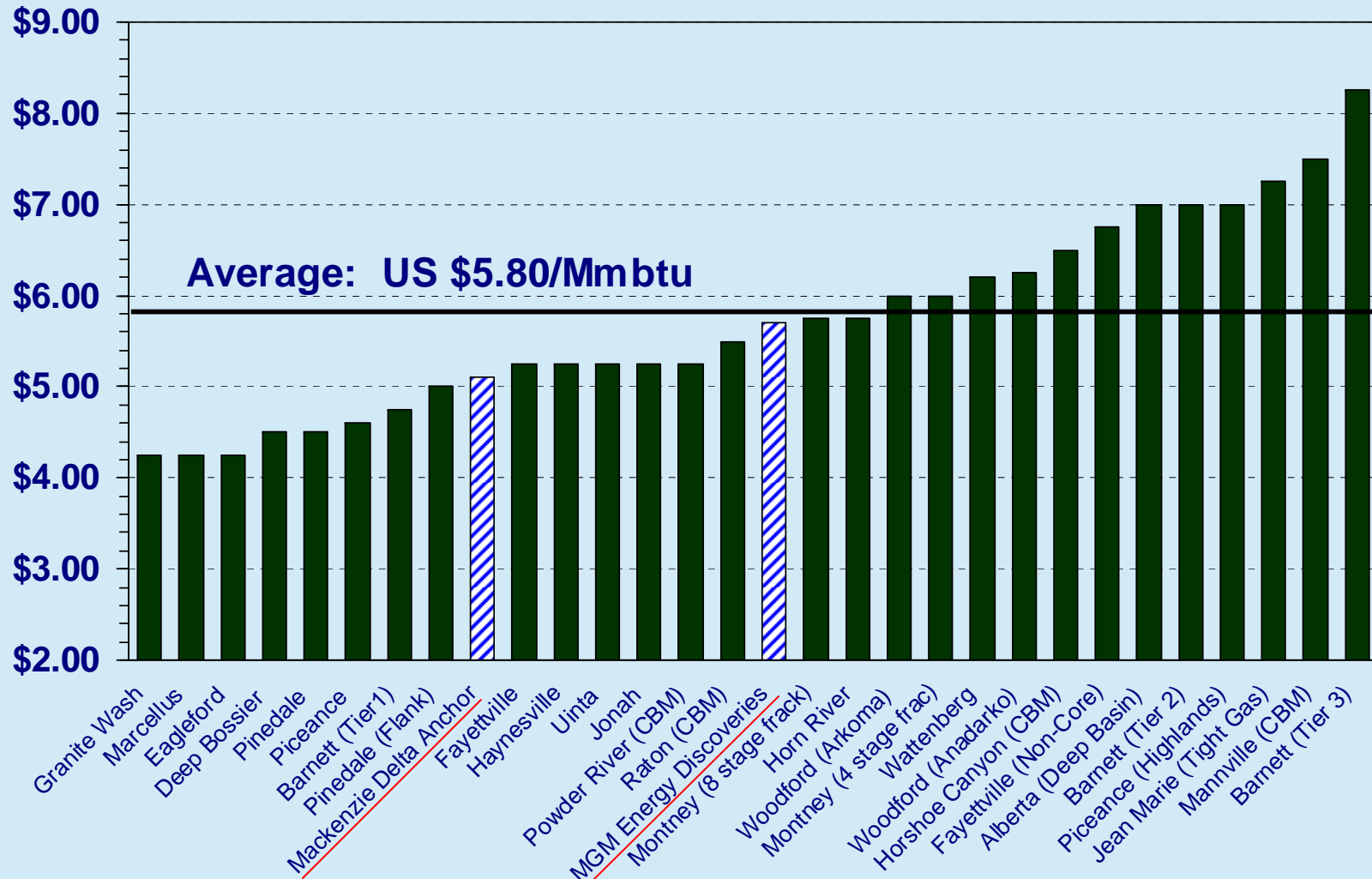
(\$/mcf)	Western Canada Gas ¹	Northern Gas ²
F&D	2.46	1.15 - 1.50
Operating Costs	1.85	0.15 - 0.40
Transportation	-	3.00 – 3.25
Royalty Rate	2.5% to 5% during first year of production, then up to 36% depending on production rate and gas price	Up to 5% until recovery of capital costs, then 30% of net revenue (after tolls and opex)

1. W. Canada costs reflects average historical results of various producers as outlined in following pages. There will be a wide range of results for F&D and operating costs dependent on play type and within play types.
2. Northern Gas costs based on published estimates of anchor fields and MGM Energy internal estimates



Cost of Supply

Estimated Break Even Price for Various North American Natural Gas Basins (after-tax; 10% rate of return)



Source: FirstEnergy Capital Corp April 9, 2010 report: "Natural Gas Price Forecast Update" for all basins except "Mackenzie Delta Anchor" and "MGM Energy Discoveries" based on MGM Energy estimates using \$3.00/mcf MVP toll; 2% inflation and 2010 gas price. **5**



Background Information on costs of Northern Gas and Western Canada Gas



MGM Energy Finding Costs

- **MGM Energy has acquired resources through drilling (Delta exploration program), acquisition (Umiak property) and farm-in (Previous Discoveries from Chevron/BP farmin)**
- **An example of finding costs for discoveries in the North is the costs related to MGM Energy's exploration program in the Delta in the winters of 2007 through 2009 which resulted in the Qavvik discovery.**
- **MGM Energy drilled 8 wells during the three winter seasons (at a cost of approx. \$170 million) plus completed seismic programs totalling approx. \$25 million, for a total cost of \$195 million**
- **The only material discovery was the Ellice J-27 well, which has mean contingent plus prospective resources of 448 bcf.**
- **Therefore, the finding cost of the program to date is approx. \$0.44/mcf.**
- **MGM Energy believes its finding costs will be reduced in the future given the knowledge of the basin which it has gained from the wells drilled and seismic acquired**



Northern Development Costs

- **Development costs estimated by MGM Energy to be approx. \$1.00/mcf, for large discoveries (i.e. 250 bcf – 500 bcf range)**
 - Larger developments will have lower costs/mcf; smaller developments will have higher costs/mcf
- **Taglu estimates development cost of \$0.85/mcf; Parsons Lake of \$0.86/mcf and Niglintgak of \$0.80/mcf**
 - All anchor field estimates based on March 12, 2007 cost updates provided by anchor field owners, including future capital, and on volumes as filed in January, 2006.
 - MGM Energy believes that the costs may have decreased since these estimates were published



Western Canada F&D Costs

- **Historical FD&A cost for Proved + Probable for a range of Western Canada natural gas producers (i.e. > 50% of production is natural gas) was¹:**
 - 1 year \$2.46/mcf
 - 3 year \$2.67/mcf
 - 5 year \$2.89/mcf
- **F&D costs for natural gas discoveries only are not available, however, as the above sample is natural gas weighted producers only, MGM Energy believes that these costs are representative of historical F&D costs for natural gas discoveries in Western Canada**

1. Source: Peters & Co May 3, 2010 Report - “Energy Update”. Average historical F&D costs for Intermediate and Junior Producers in Peters & Co. analyst coverage universe with forecasted production in 2010 of >50% natural gas – based on P+P reserves and including Future Development Capital.



Northern Gas Operating Costs

Anchor Fields:

- **Parsons Lake: Estimated from NEB application: \$0.12/mcf over life of project**
- **Taglu: Estimated from NEB application: \$0.12/mcf over life of project**
- **Niglintgak: Estimated from NEB application: \$0.21/mcf over life of project**

MGM Energy Fields:

- **MGM Energy preliminary estimates of operating costs for its fields is \$0.30 to \$0.40 per mcf**
- **Amounts are significantly higher than anchor fields due primarily to anchor fields being substantially larger than MGM Energy development therefore benefitting from economies of scale**



Western Canada Operating Costs

- **Estimated 2010 operating costs (excluding G&A, interest and taxes) for a range of Western Canada natural gas producers (i.e. > 50% of production is natural gas)¹:**
 - Intermediate \$1.93/mcf
 - Mid-Cap \$1.86/mcf
 - Small-Cap \$1.76/mcf
 - **Average \$1.85/mcf**
 - **Operating costs for natural gas production only are not available, however, MGM Energy believes that the operating cost estimate is reasonable for natural gas production in Western Canada**
1. **Source: First Energy April 2010 Report - “FirstSynopsis”. Average forecasted operating costs for 2010 for Intermediate, Mid-Cap and Small-Cap Producers in First Energy’s analyst coverage universe with forecasted production in 2010 of >50% natural gas. (Note: This subset of producers is not identical to the Peters & Co. universe used for the F&D costs, however, there is substantial overlap)**



Northern Gas Royalties

Typical Northern Gas Royalty Regime

Before Payout:

- 1st 18 months of production: 1% of gross revenues, rising by 1% every 18 months to a 5% of gross revenues by year 6

After Payout:

- Greater of 30% of net revenues or 5% of gross revenues

Payout:

- When cumulative gross revenues exceed cumulative costs (including return on capital at Gov't bond rate + 5%)

Average Royalty

- The average royalty to be paid over the life of the discovery will vary dependent on price, however, will be in the 10% to 15% range assuming a price of \$7.00
- The lower royalty rates are applicable until Payout



Western Canada Royalties

- Royalties for Western Canada natural gas production are sensitive to price and production rates
- Alberta, BC and Saskatchewan have royalty incentives which result in royalties of between 2.5% and 5% during the first year of production
- After the first year, rates will be dependent on the production rate and natural gas price, with royalty rates of up to 36%
- In Alberta, for example, at \$6/mcf
 - Wells with production rate of .25 mmcf/d would pay a royalty of 19%
 - Wells with production rate of 2.5 mmcf/d and higher pay a royalty of 35%
- At any production rate or gas price, the average royalty over the life of the discovery will be lower for Northern Gas given the low royalty rates until payout of capital expenditures has been obtained and royalty rates thereafter which are 30% of net revenue (after tolls and operating expenses)