

Régie de l'énergie
DOSSIER: R-3837-2013
PHASE 3
DÉPOSÉE EN AUDIENCE
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Pièces n°: B-0399

Assessment of the Financial Derivatives Program

Preliminary Remarks

March 2014

Original : 2014.03.18

Gaz Métro – 6, Document 4
17 pages en liasse



Purpose

- Summarize key elements of the analysis and provide a perspective on current risk management. This will help the Régie with the future of the financial hedging program at Gaz Métro
- Gaz Métro has complied with the Régie's request in D-2012-158 to review the Program. I reviewed the elements of the program, recommended changes and provided evidence on the likely performance of a reformulated hedging program. Today I will provide additional intuitive evidence that natural gas prices are not stable. This serves as a reiteration of my recommendation to continue with the Program in its enhanced form
- The enhanced Program is centered on three basic principles: awareness, measurement and decision-making based on risk. These three elements are purposefully focused on minimizing the impact of price run-ups and minimizing the likelihood of significant opportunity costs
- I appreciate the opportunity of working on behalf of Gaz Métro's customers and thank Gaz Métro's staff for their willingness to work with me to understand the issues and find a better solution on behalf of the customers. I believe this is a very constructive relationship



Answers to Régie's Request D-2012-158

1. Costs and benefits
2. Advantages and disadvantages of maintaining a financial derivative program
3. Appropriateness of terminating the program
4. Guidelines for a reformulated program
5. The handling of migrations between direct purchase services and system gas
6. The use of financial derivatives in the energy sector



Assessment of the Current Program

Pros	Cons
<ul style="list-style-type: none">• Diminished volatility of prices• Certainty of prices well in advance• Leverages financial strength and capabilities at Gaz Métro• Gaz Métro does not benefit from the results of the Program• Individuals supporting the Program have the adequate capabilities	<ul style="list-style-type: none">• It is not based on the principles of awareness of risk, measurement of risk and decision-making based on risk• Opportunity cost is not a useful metric to inform decision-making• Hedging is largely a function of time triggers without reference to a market context

Costs, Benefits, Pros and Cons

- From 2001 through 2012, the Program has generated an accumulated loss of \$CAN 251 million when compared to the strategy of not hedging
- From 2009 through 2012 the program has accumulated \$CAN 409 million of opportunity cost
- The volatility of hedged prices over the 2001 to 2012 period has been smaller than that of market prices, but this benefit is overwhelmed by the opportunity cost
- The current program can diminish the impact of price spikes



Continuation of the Program

I don't recommend terminating the program

- The risk of higher prices, increased volatility and opportunity costs are still relevant and so there is still the need to prudently manage them
- None of the interveners we talked with called for an outright termination of the Program
- Purchased gas adjustment clauses or averaging of charges may cosmetically address the price spikes but does not address the occurrence of the price spikes

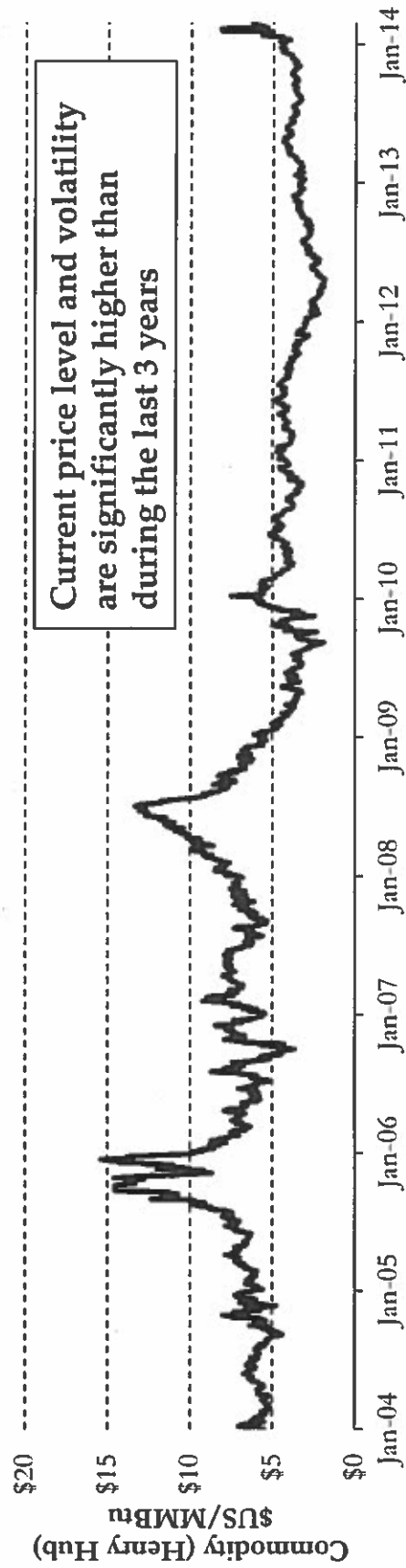
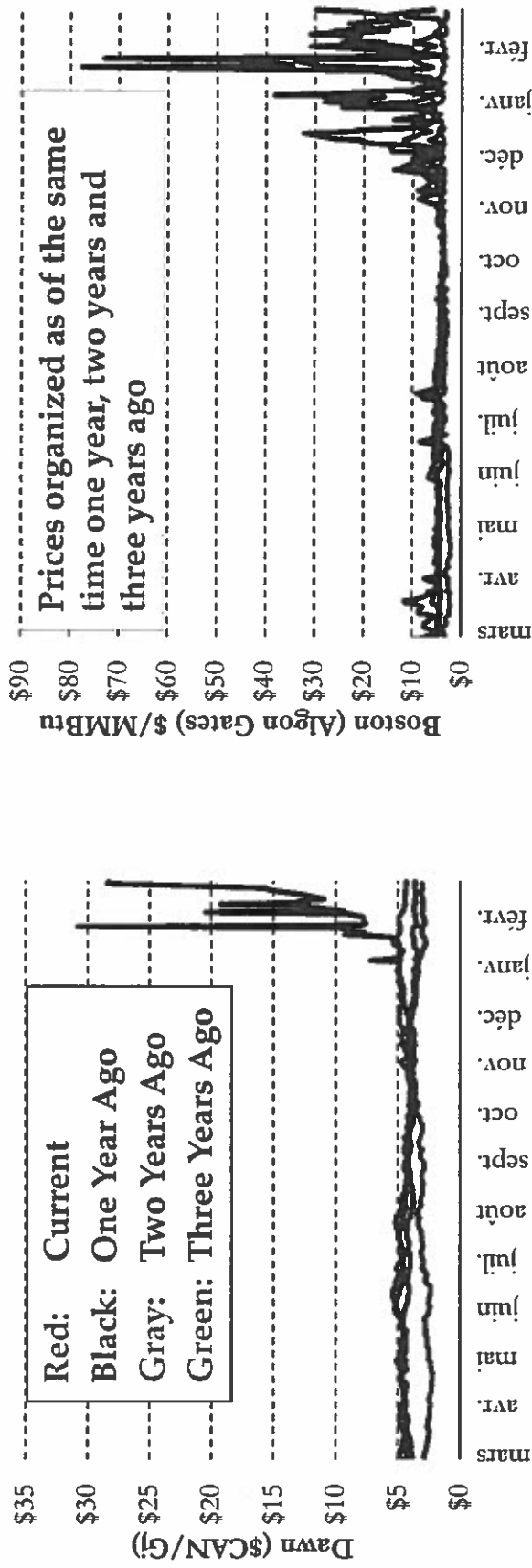
Enhancements to the program

- The hedging strategy should center on awareness, measurement and risk-based decision-making
- Hedging decisions are based on a balance between the risks of prices increasing and decreasing
- Shorten the hedge horizon, diminish the size of the systematic hedges and implement a defensive protocol that hedges to avoid intolerable risk exposures



Answers to Régie's Request D-2012-158:

Market Spot Prices Have Increased Despite 2012 Expectations

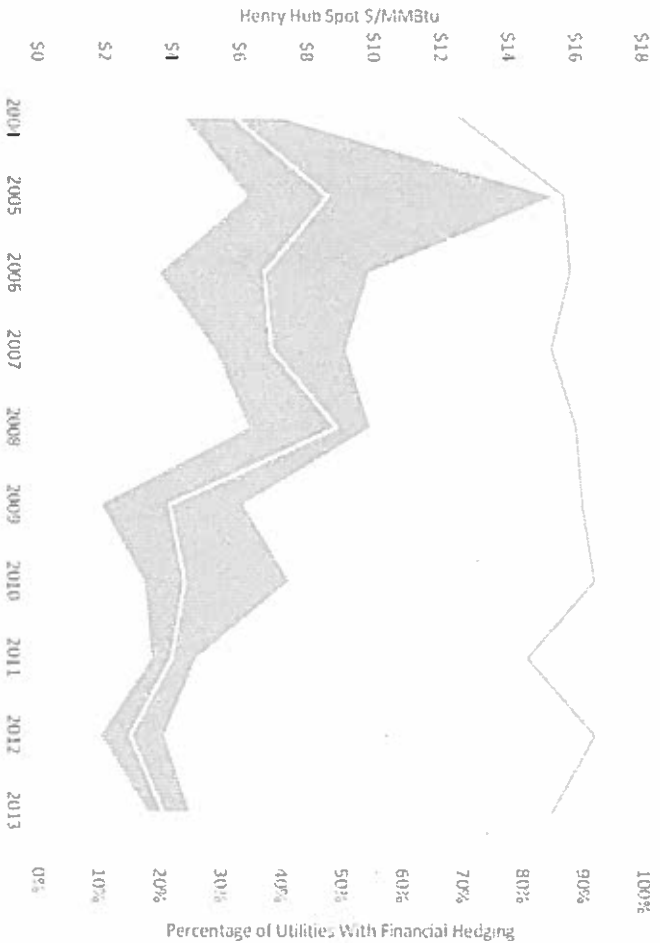


Source: CEA using data from SNL



Migration and Financial Derivatives

2001	55%
2004	70%
2005	87%
2006	88%
2007	85%
2008	89%
2009	90%
2010	92%
2011	81%
2012	92%
2013	85%



The current process to handle migrations between direct purchase services and system gas is in alignment with best practices

The only Canadian province (other than Quebec) that has an active hedging program is Saskatchewan. Most local distribution companies in the US hedge a material portion of their supply needs and there is a fair uniformity in hedging strategies

Source: AGA (American Gas Association), LDC Supply Portfolio Management During the Winter Heating Season. Natural gas prices from SNL. Range represents the high and the low of prices for the respective year

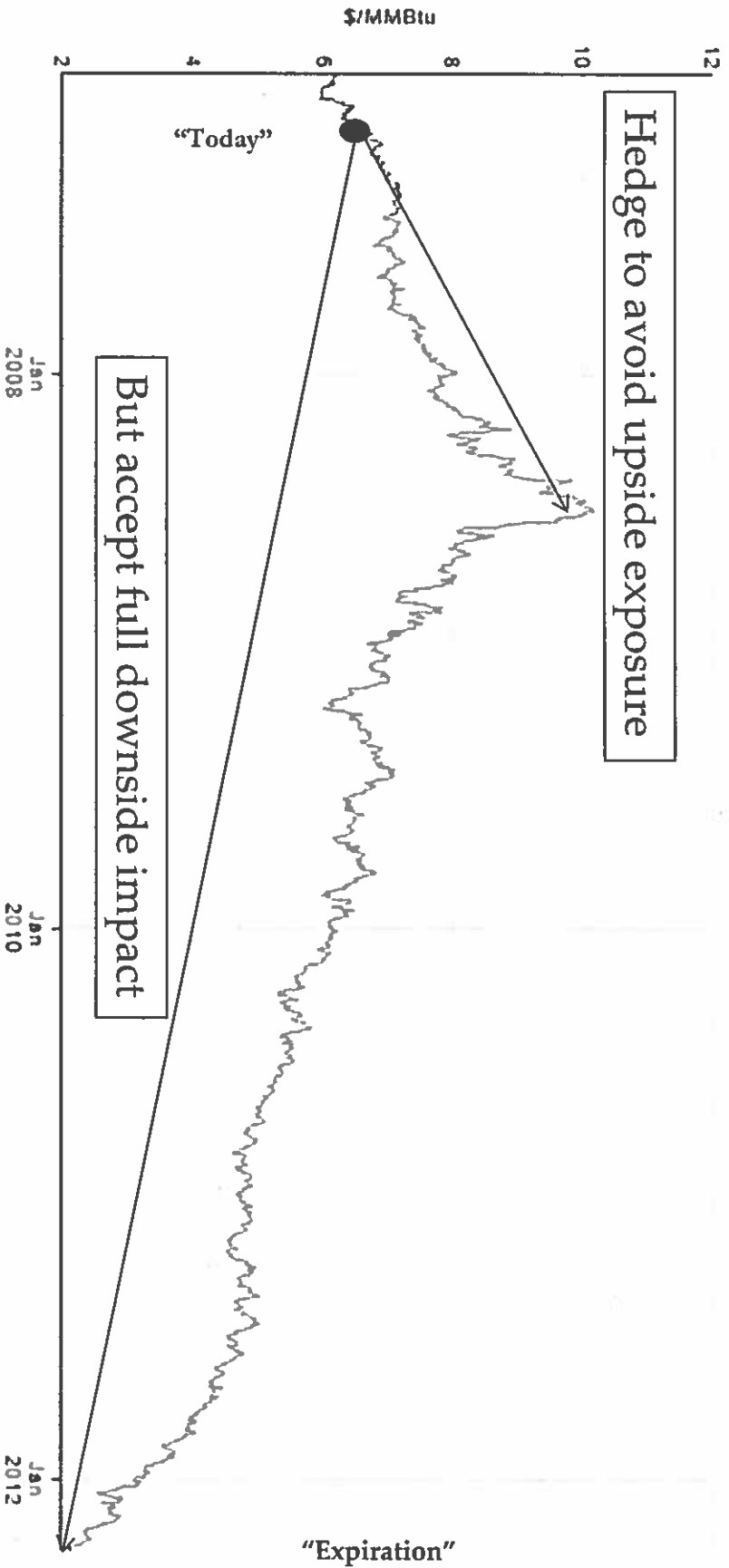




Recommendations for Managing Financial Derivatives

Concentric Energy Advisors' approach to financial derivatives is based on a "principles-based" framework that focuses on risk management.

Risk Measurement Summary



We don't know what the market will do in the future, but we can measure the risk of movement (up or down) and measure the effect of that movement on the objectives



Risk Measurement Summary

A Two-Sided Risk Exposure

- Hedging involves the choice between hedging to avoid upside risk and accepting the risk that by hedging there is the possibility that the hedged price may be higher than the ultimate settlement (opportunity cost)
- Hedging is therefore not a strategy to eliminate risk, but to balance the risk exposure

Best Practices to Risk Measurement

- There is a methodology to measure the risk exposure (up and down) that is broadly implemented in the industry. This methodology provides an expectation of how prices may evolve to the high side and to the downside within a prescribed timeframe and confidence level
- This methodology is called "Value at Risk" and, in spite of its drawbacks, it remains a best practice and is the standard methodology for risk measurement in all Energy Trading and Risk Management (ETRM) platforms

Risk Exposure Drives Hedging Decisions

- The risk exposure, once compared against tolerable levels, drives the hedging decision

Reformulated Program Guidelines (Highlights)

Center the Program on Risk

- Awareness, measurement and risk-based decision making

Hedge with a Balanced Risk Exposure

- Upside Risk Exposure (Budget Risk) - This is the risk associated with prices increasing from current levels and the consequence of rising system gas prices
- Downside Risk Exposure (Prudence Risk) - Hedging creates the possibility that the price hedged may end up being uncompetitive and the customers will be paying more than the spot market
- Balanced Risk Exposure - Evaluate the need to hedge based on the balanced risk from upside and downside exposure



Reformulated Program Guidelines (Highlights)

Implement Two Protocols

- Programmatic Hedges - Similar features as the current program but with a limited hedge horizon and total percentage to hedge
- Defensive Hedges - Incremental to Programmatic and based on balanced risk exposure

Metrics

- Hedging decisions based on a contemporary comparison between upside and downside risk and not just on the final outcome

Policies and Procedures

- Fully document the process in Policy (approved by the Régie) and Procedures

A Tolerance for Upside and Downside Exposure is Logical

Approach	Consequence
No tolerance for opportunity cost	Full exposure to price run ups
No tolerance for price increases	Full exposure to opportunity cost
No tolerance for opportunity cost or price increases	Not possible
Broad tolerance for opportunity cost	Higher hedge percentage
Broad tolerance for price run ups	Low hedge percentage



Expected Results

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Virtues of the Reformulated Program

The Reformulated Program Effectively addresses the Régie's concerns*

- It structurally takes into account the opportunity losses stemming from hedging decisions and establishes a management metric to minimize opportunity cost
- Dynamically measures volatility in pursuit of the objective of ensuring price stability
- Does not assume that prices will remain stable and dynamically re-integrates the objective of taking advantage of a decline in the price of natural gas. It incorporates the selection of tools, the period of coverage and the size of the coverage as integral parts of the implementation
- It is consistent with best practices in North America for managing financial derivatives programs

Future Performance

- The hedging program can generate opportunity costs when the market settles to the downside (as it did between 2009 and 2012) or may generate savings to customers when the prices settle to the upside (as it did between 2003 and 2008)
- Judging the performance of the Program solely based on the avoidance of the opportunity cost or the pursuit of savings is ignoring the double-sided nature of risk

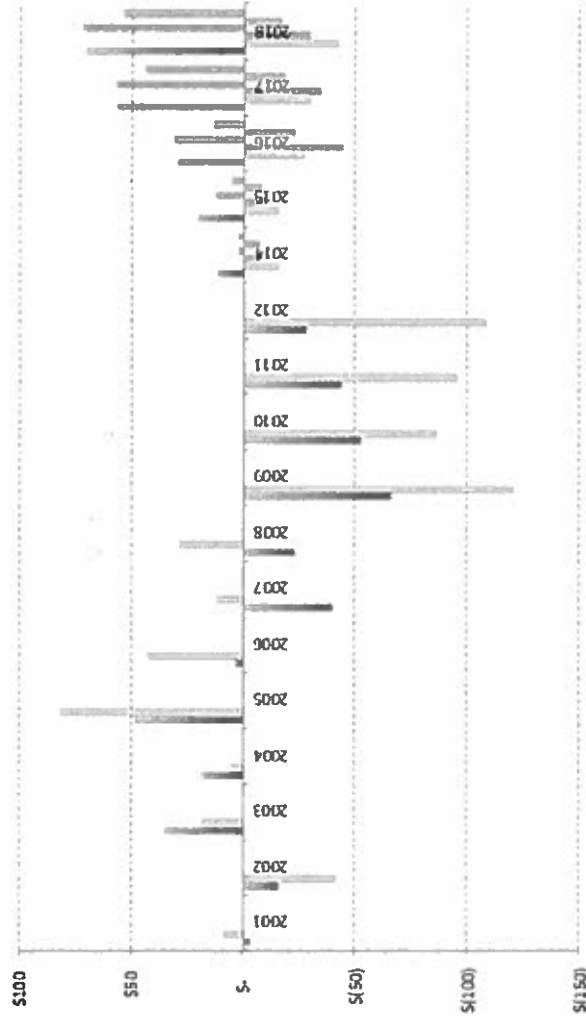


Expected Results:

Expected Results

Over the long-run, it is reasonable to expect that the opportunity cost may be contained under 10% when compared against not hedging

Range of Opportunity Cost for Alternative Price Scenarios and Differing Tolerance Levels (\$CAD millions), 2001-2018



It is understandable that one of the key driving factors to the review of the current program was the opportunity cost, but I urge you to have a broad perspective at both price run ups and price run downs. The reformulated Program is designed to actively address this balanced risk exposure



Expected Results:

Final Thoughts

- Gaz Métro has complied with the Régie's request in D-2012-158 to review the Program
- Markets prices have moved up despite expectations in 2012 that they would stay low, and it has affected system gas prices
- The customers want price protection and to have a hedging Program that is consistent with the majority of utilities (AGA).
- The program is exclusively for the benefit of the clients and alternatives such as a deferred pricing don't provide the desired risk protection
- The foreign exchange exposure for transactions referenced to US prices should also be hedged when the commodity exposure is hedged through the enhanced program. The foreign exchange exposure could be eliminated by engaging in foreign exchange forward instruments and limiting the commodity hedging instrument to fixed price swaps
- Having a Program that actively manages the exposure of price run ups and the exposure to opportunity cost is the best solution for Gaz Métro. It may be that the hedging activity is limited (if the risk for downside exposure is significant), but this is not the same as having no hedging activity because no Program is in place

About the Expert - Ruben Moreno

19+ Years Experience

- More than fourteen years experience in North American energy industry and an additional 6 years as management consultant
- Assistant Vice President for Concentric Energy Advisors, a management consulting firm specializing in financial and economic services to the energy industry

Qualified Risk Management Expert in Canada

- Evaluated Nova Scotia Power Inc. (NSPI) hedging strategy and provided expert witness testimony on behalf of NSPI before the Nova Scotia Utility and Review Board (NSUARB) under Docket M04972 (November, 2013)
- Advised on risk exposures for a notional US\$10 billion including a broad range of fuels (oil, natural gas, coal, wind, solar and hydro), differing generating technologies and extensive transactional experience supporting clients design and implement energy procurement and risk management practices

Representative Clients (end-users, power producers and financial institutions)

- Powerex, New York Power Authority, Long Island Power Authority, NSPI, Weatherford (Texas) Utilities, Guam Power Authority, Weyerhaeuser, Abitibi Consolidated, (New York) Metropolitan Transportation Authority, Port Authority of New York and New Jersey, Jefferies, and Haddington Venture among others

