



# North American Natural Gas: Chicago GasMart 2009 Risk Management Discussion

May, 20th 2009

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# Agenda



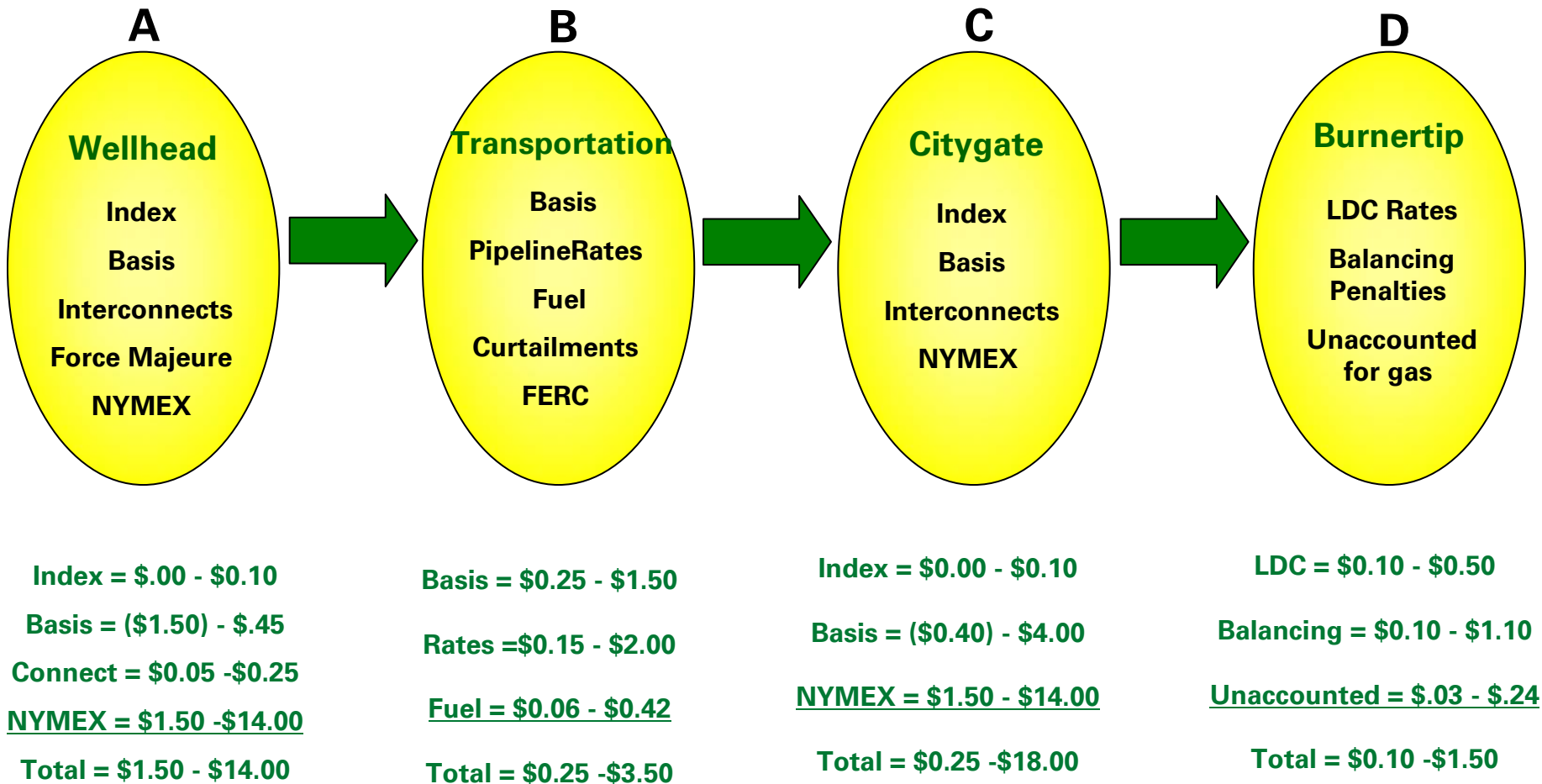
- **The Value Chain (Bill Griffith- BP)**
  - Where are the dollars and resources focused in your organization?
- **The Risk Management Path (Paul Burgener- BP)**
  - What is it
  - Creating a risk management framework
    - Defining objectives and drivers
    - Building flexible yet disciplined strategies
    - Various hedging product alternatives
- **FAS 133 What is a Derivative (Clint Carlin from Deloitte to cover)**
  - Focusing risk management economic benefits and accounting
    - Physical versus Financial
    - Swaps, Options and Option Combinations
- **Q&A**

# Types of Risk



- **Price Risk**
- **Physical Supply/Delivery Risk**
- **Volumetric Risk**
- **Market Liquidity Risk**
- **Cash Liquidity Risk**
- **Credit (Non-performance) Risk**
- **Weather Risk**
- **Operational Risk**
- **Reputational Risk**

# Understanding the Value Chain and Risks



# Summary - allocating your time properly



Where are the most dollars at Stake - is my time matched accordingly ?

- NYMEX is the single largest and most volatile component of cost - ranging from \$1.50 - \$14.00. This component also carries the greatest amount of volatility
- The Physical aspect of scheduling and balancing gas can be very time consuming – total dollars at stake are \$0.10 - \$4.00 – there is substantial operational risk in this part of the chain - Who is best suited to handle this ?- does the time spent justify the dollars at stake ?
- What is the size of your staff ? Can you effectively manage all the pieces ? Is your time spent managing the risk with the largest exposure ?

# What is Risk Management



**Prices in a  
Defined Range**

**Known**

**Unknown**

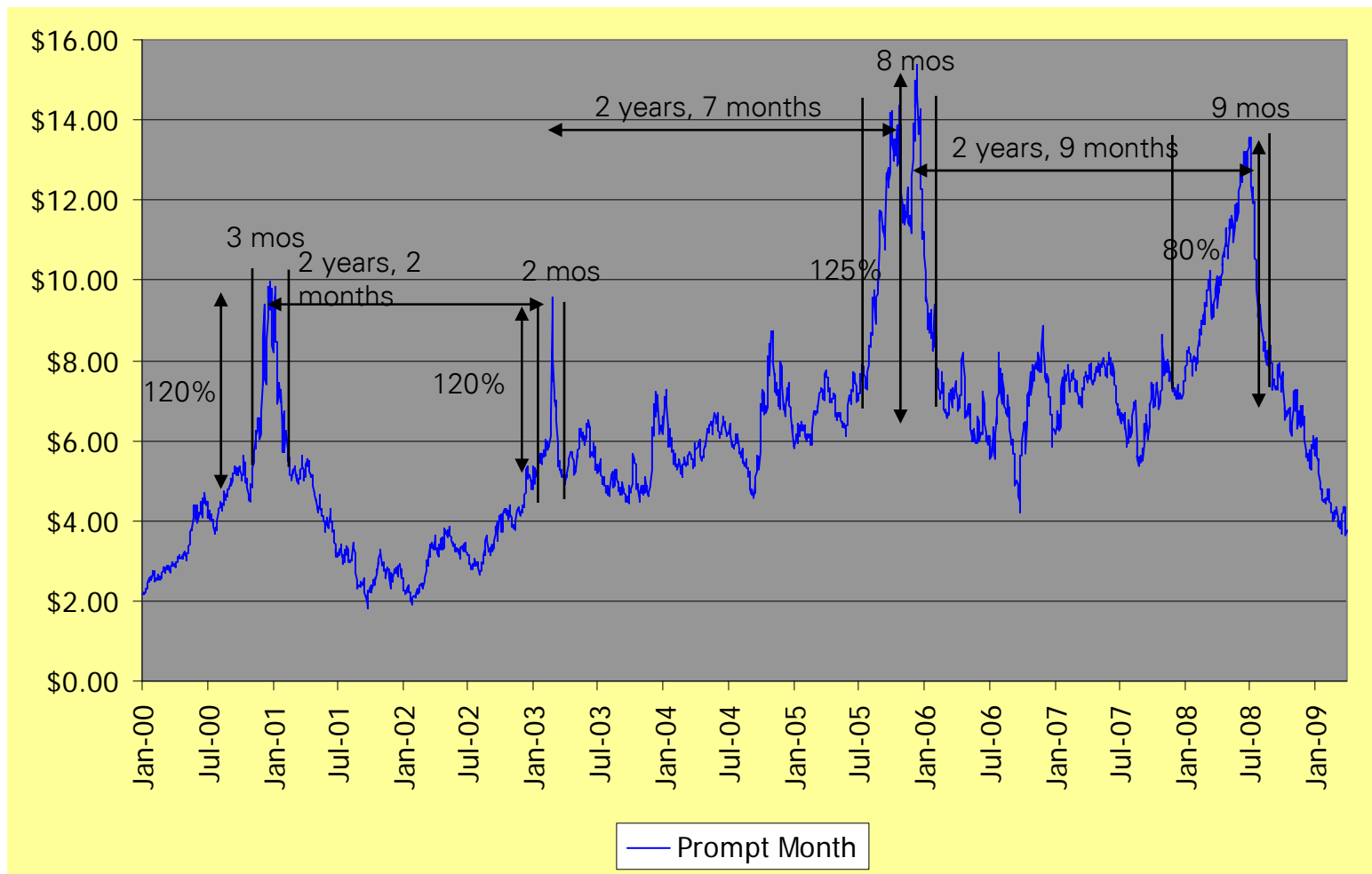
**Risk Management is Trading Uncertainty for Certainty**

**SPECULATORS**



**HEDGERS**

# Nymex History Lesson?





# Why Consider Risk Management?

**A commodity risk management strategy is warranted when Price Volatility, Price Exposure and Risk Tolerance are present.**

- Price Volatility: Fluctuations in underlying prices (volatility) generate uncertainty and inconsistency in the value received for the commodity.
- Price Exposure: If price volatility affects budgets and/or ultimately earnings then price exposure exists.
- Risk Tolerance: When prices become more volatile, the exposure may breach the risk tolerance limits of a company. In this case, risk management becomes essential.



# Benefits of Risk Management?

**Proactive Risk Management is like preventative medicine—the immediate benefits are not always obvious and there are often costs involved**

- Costs
  - May limit a company's upside
  - Option Premiums
- Benefits
  - Reduce and/or eliminate business performance volatility to encourage stable performance
  - Protection against adverse outcomes
  - Stability of Business Planning allowing for expansion or new exploration which depend upon budgeted cash surpluses.
  - Ability to attract capital which increases when the company exhibits steady earnings and cash flow. Bank lenders and public bond holders are more willing to lend if they are more certain that debt will be repaid.

# Risk Management with a Strategic Vision



- ❖ Price risk management is best applied:
  - Consistently
  - Under guidelines of a corporate mandate
  - With knowledge of the underlying market

# A Framework for Energy Risk Management



## Company Objectives:

- Budgets
- Cash Flow
- Returns
- Prudence
- Volatility
- Competitive Advantage

## Risks Include:

- Price
- Credit
- Operational
- Interest Rate
- FX
- Regulatory

## Assess Market Factors:

- Supply
- Demand
- Liquidity
- Other Market Factors

## Things To Consider:

- Product Types
- Volume Limits
- Term
- Liquidity
- Flexibility
- Internal Control
- Contracts

## Define:

- Acceptable Benchmarks
- Assessment
- Criteria

# Potential Objectives & Considerations



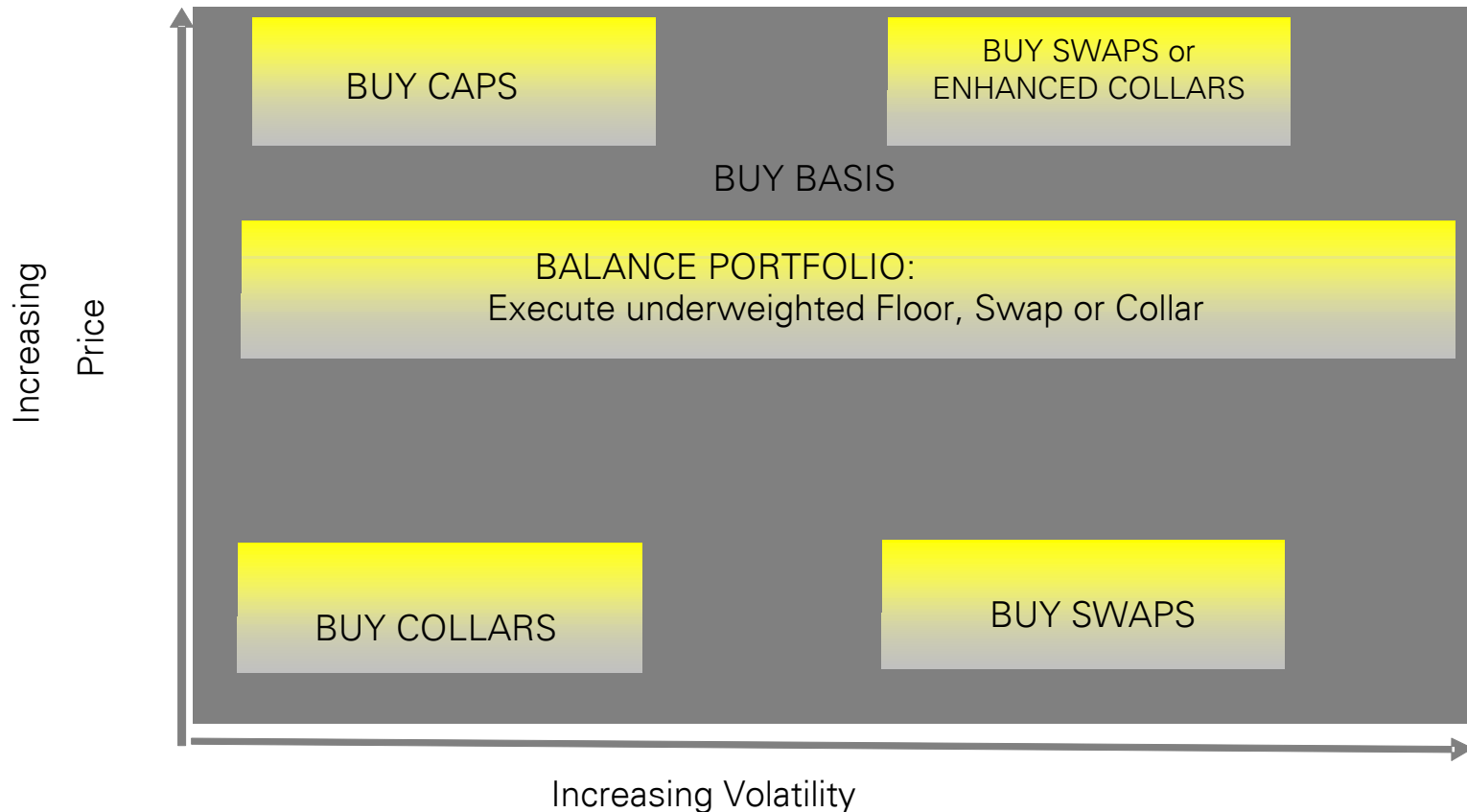
- **Different Risk Management Drivers:**
  - Budget Certainty
  - Reduce or Dampen Price Volatility
  - Beat the Index
  - Protect Product Margins
  - Avoid Catastrophe (Insurance)
  - Prudent Regulatory Framework
  
- **Three Simple Considerations:**
  - Amount of desired directional market participation.
  - Amount of desired risk mitigation-
    - Risk Retention
    - Which part of the risk distribution to cover- At-the-money, tail risk
  - Amount of Cost/Premium for hedging- if any

# Hedge Product Decision Matrix



Price and Volatility can guide decisions as to which hedge product to apply.

Strategy assumes an ongoing price risk management program and a market that has a mean-reverting nature:





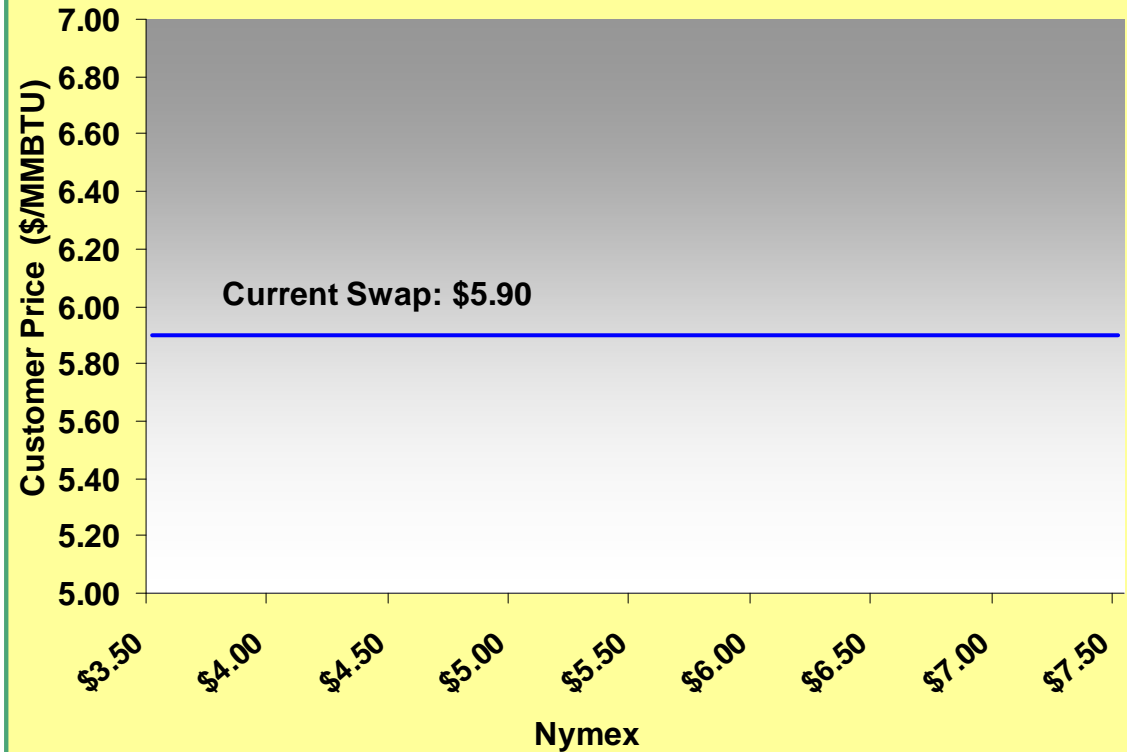
# Fixed Price – Nymex Calendar 2010

## Description

- Customer locks in a fixed price.

## Details

- Jan '10 – Dec '10
- 1,000 MMBtu/d
- Nymex
- Price: \$5.90/MMBtu, USD



## Examples

- Customer Price is \$5.90/MMBTU

# Standard Cap – Nymex Calendar 2010

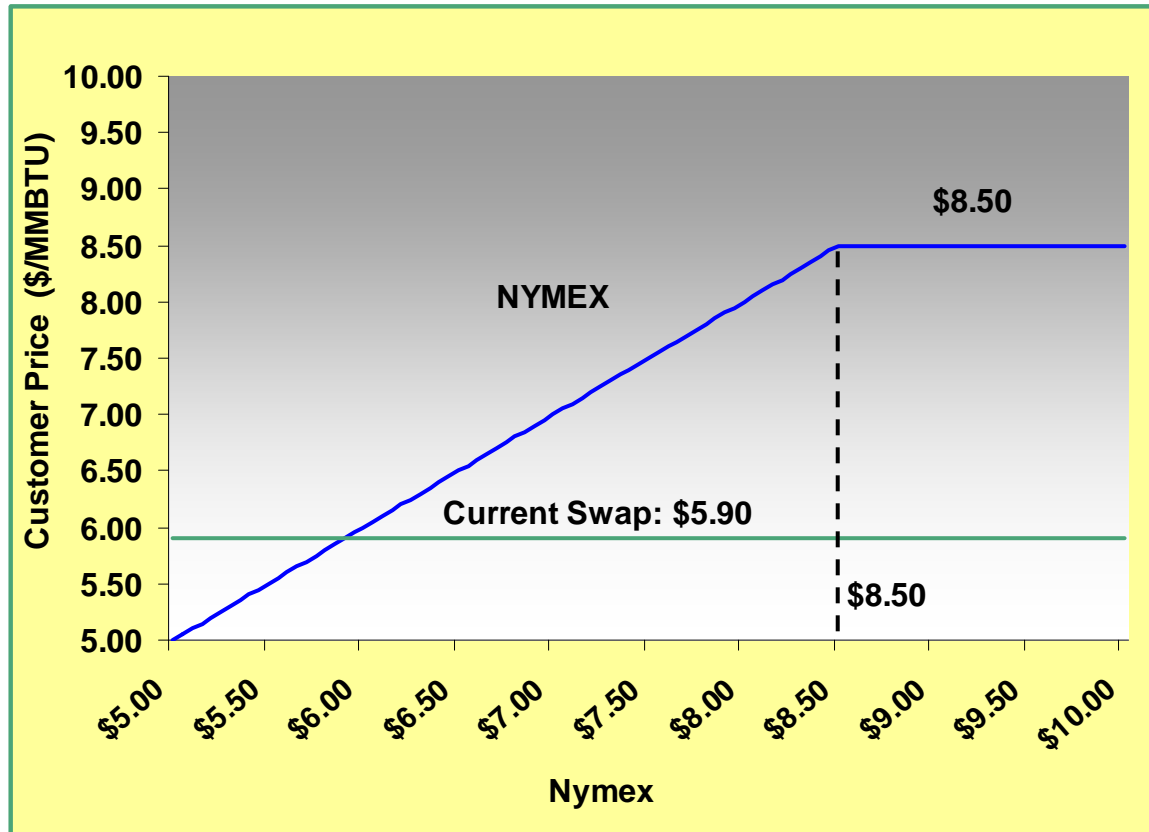


## Description

- Customer receives a cap on monthly price by paying a premium.

## Details

- Jan '10 – Dec '10
- 1,000 MMBtu/d
- Nymex
- Price: Nymex with a \$8.50 maximum price.
- \$0.42+/MMBtu premium payable upfront



## Examples

- If Nymex settles \$8.50 or above, customer price is \$8.50
- If Nymex settles less than \$8.50, customer price is Nymex



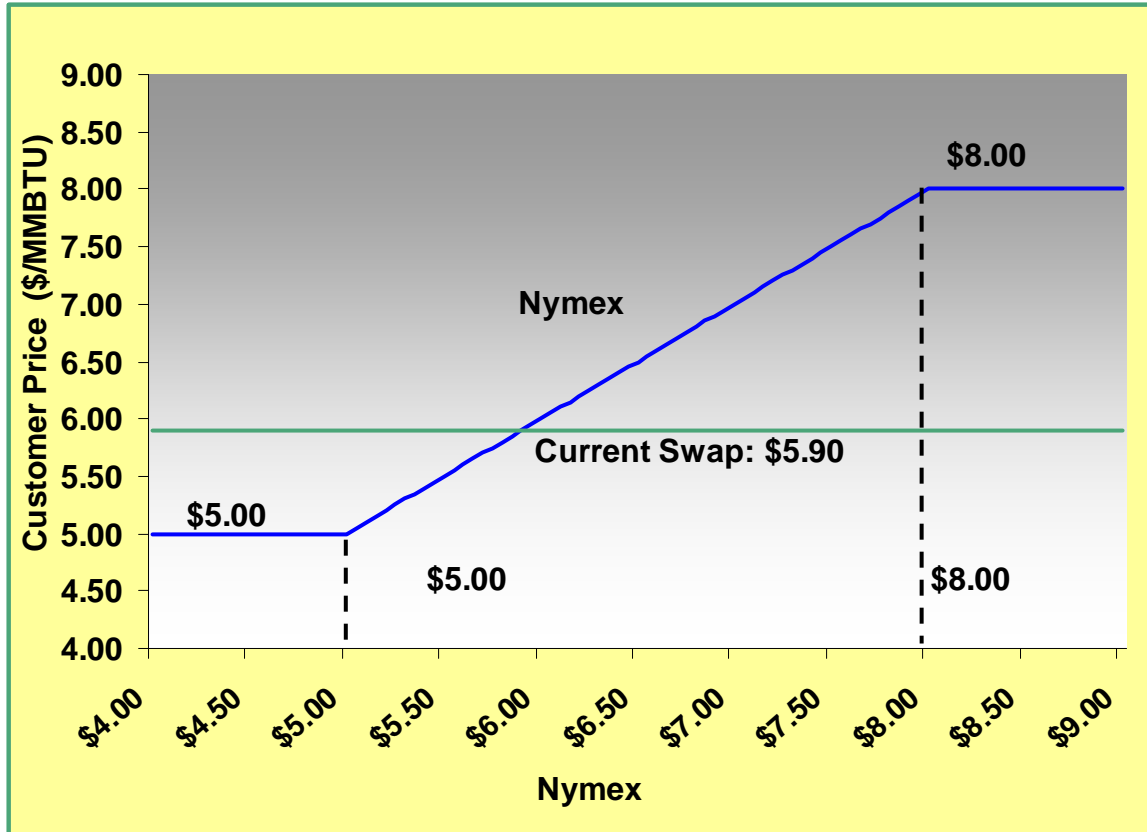
# Consumer Costless Collar- Nymex Calendar 2010

## Description

- Customer limits their upside price exposure
- Commonly structured as value neutral

## Details

- Jan '10 – Dec '10
- 1,000 MMBtu/d
- Nymex
- Buy Cap / Sell Floor
- Current Market \$5.90 / MMBtu
- Customer chooses a range: opportunity given on the downside is used to fund the cost of the upside price protection



## Scenarios

- If Nymex settles at or above \$8.00, customer price is \$8.00
- If Nymex settles between \$5.00 and \$8.00, customer price is Nymex
- If Nymex settles below \$5.00, customer price is \$5.00

# Consumer Three-Way Collar- Nymex Calendar 2010

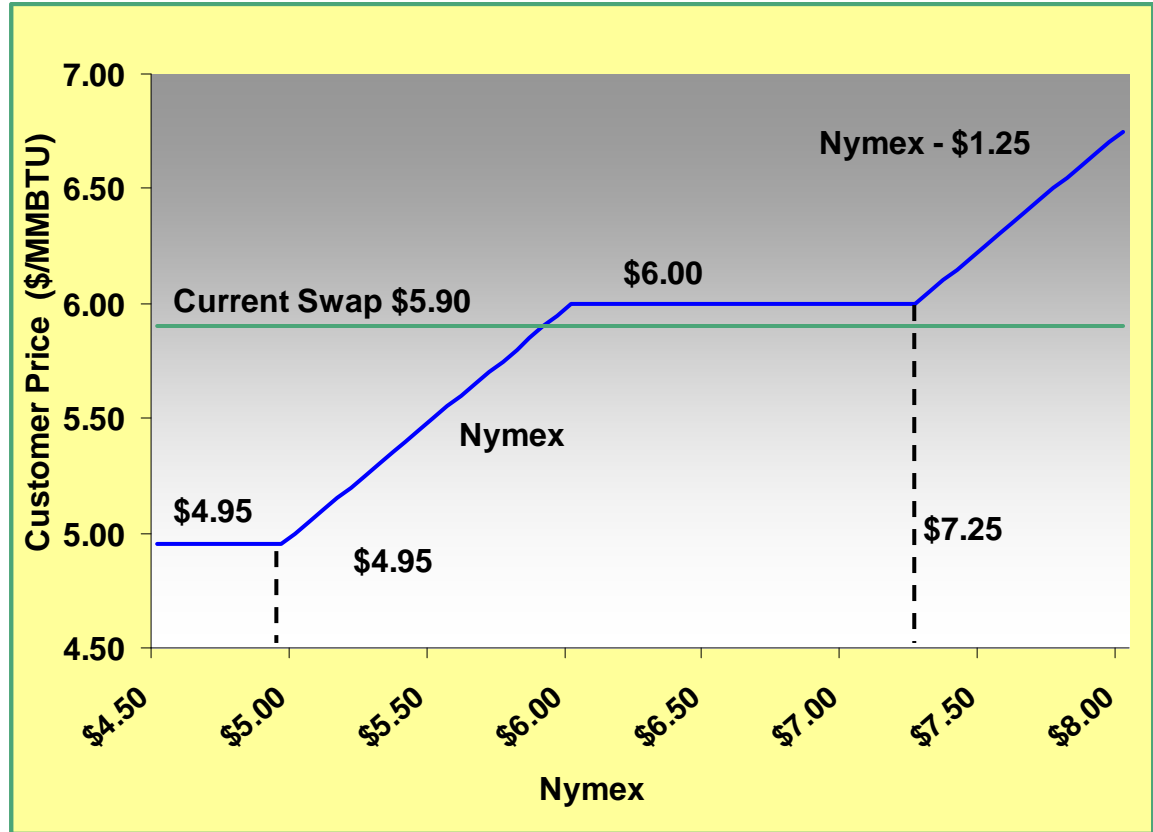


## Description

- Customer limits their upside price exposure below a Costless Collar
- Customer participates in a range of downward price movements.
- Customer gives up protection in well above-market prices to gain a lower initial upside price protection
- Structured as value neutral

## Details

- Sell Cap 1/Buy Cap 2/Sell Floor
- Current Swap: \$5.90/MMBtu.
- Customer receives additional premium for selling a call which creates better initial range economics vs the Costless Collar



## Scenarios

- If Nymex is above \$7.25, customer price is Nymex price minus \$1.25
- If Nymex is between \$6.00 and \$7.25, customer price is \$6.00
- If Nymex is between \$4.95 and \$6.00, customer price is Nymex
- If Nymex is below \$4.95, customer price is \$4.95

# Fixed Price Discount or Nymex Discount Nymex Calendar 2010

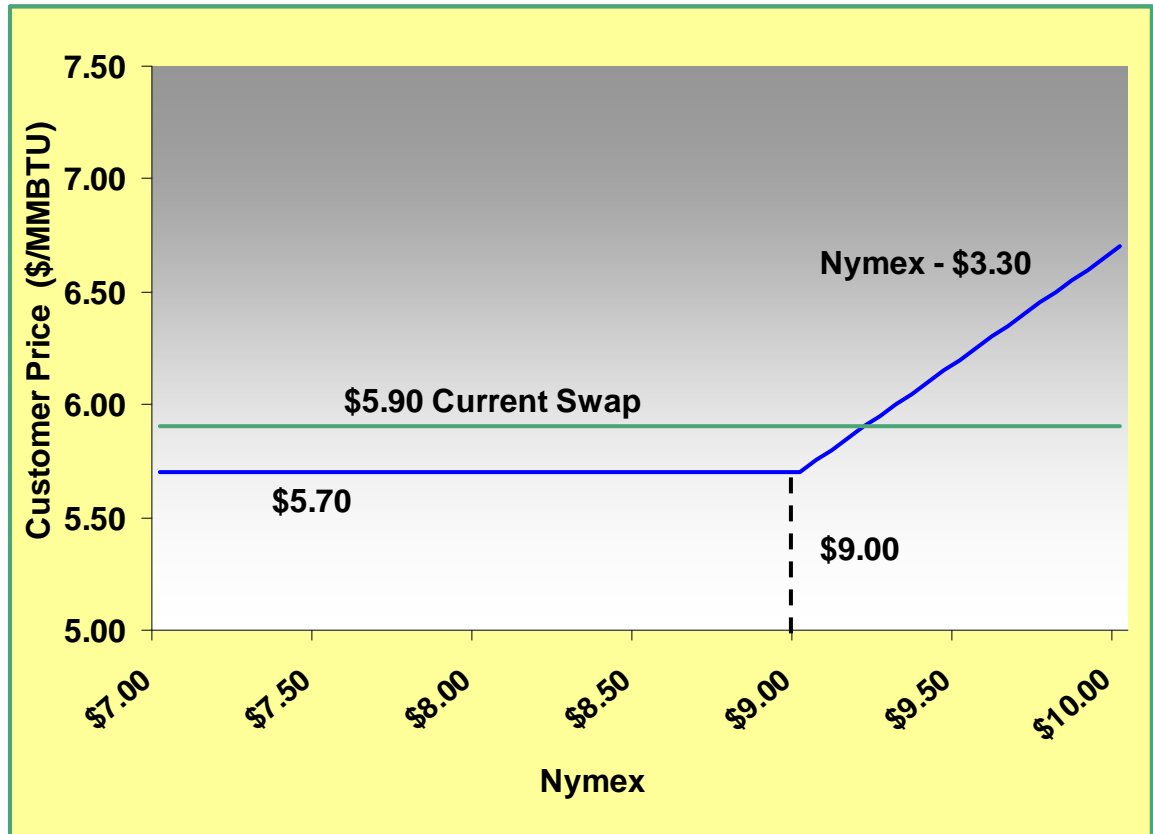


## Description

- Customer receives a significantly discounted fixed price below today's current levels as long as Nymex settles below a certain price. If Nymex settles above that price, the customer will get the Nymex less a large discount.

## Details

- Jan '10 – Dec '10
- 1,000 MMBtu/day
- Nymex
- Current Swap \$5.90
- Monthly Price: \$5.70 as long as Nymex settles below \$9.00. Nymex less \$3.30 if Nymex settles \$9.00 or higher.



## Example

- If Nymex settles below \$9.00 price is \$5.70.
- If Nymex settles above \$9.00 price is (Nymex-\$3.30).

# Contact Information



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