



May 10, 2007

GasMart 2007 – Chicago, Illinois

## Managing Price Risk in a \$5 – \$10/MMbtu World

- Realities

- Hedging in the “Red Zone”

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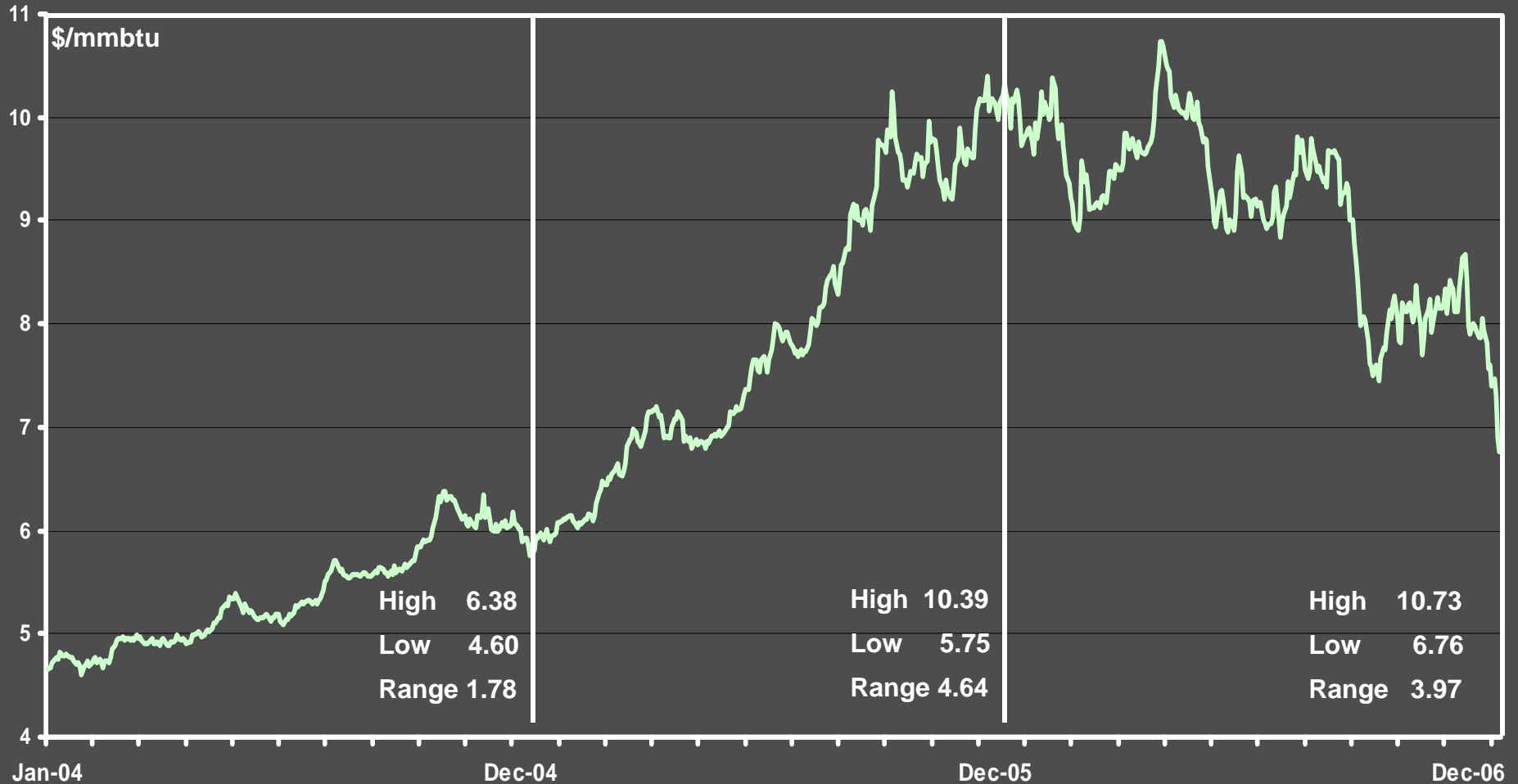
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Cargill Risk Management



# Reality: Looking back....a challenging environment.

## Calendar 2007 Nymex Natural Gas Strip Price



Did you watch in disbelief trying to decide when to enter the market?



**Reality:**

**Hedge execution .... an interesting process.**

- **“Cancel if close.”** You’re very close to executing your company’s target level until .... the “Big Kahuna” calls and tells you to cancel the order because he/she thinks the market will move even lower. The market briefly drops to the original target and runs up again.

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- **“Missed it by that much!”** The market unexpectedly drops to your target and marches back up before you can hedge because ... you can’t reach your management team at a “strategic” meeting in the Bahamas.

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- **“Oops, I got it.”** You buy and five minutes later the market plummets; .... you swear you can hear Tom Petty’s song “Free Falling” playing in the background.

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- **“Is that it?”** You miraculously hedge at the market low and ... your board compliments you by asking why you didn’t do more.

If familiar, they may be amusing now but likely they were very stressful at the time.



**Reality:  
Current hedging environment ... still not ideal.**

**1<sup>st</sup> Choice  
buy swaps**

Current price levels seem fundamentally too high  
Volatility of prices can cause instant “buyer’s remorse”

**2<sup>nd</sup> Choice  
buy options**

Prohibitively expensive due to high implied volatility and outright market prices

**3<sup>rd</sup> Choice  
use costless collars**

Call/Put skew unfavorable for consumers

Jan 08 futures at \$10 (example)

\$12 call >> \$2 upside risk

\$8 put >> \$1 downside benefit

The prevailing conditions are likely a source of frustration...So what’s new?



**Reality:  
Hedging decisions...never easy and often not intuitive.**



1. Survival / Desperation Hedging: Least Difficult  
“Throwing the Hail Mary”

3. Protection & Value Enhancement Hedging: Difficult  
“Red Zone (within the 20 yard line)”

2. Value Hedging: Most Difficult  
“Not hedging = letting the play clock expire”

Have you created a “play book” for the Red Zone?



## Hedging in the Red Zone: Recommendations for your “play book”.

### Assemble a Portfolio:

- ✓ Include a “mix” of floating price, fixed price, traditional options and custom hedge structures
- ✓ Vary the “mix” based on outright market prices
- ✓ Layer hedges at varying price levels and tenors (dollar cost averaging)

Don't run the same play every down.

### Leverage “Negative” Market Attributes:

- ✓ High implied volatility (options)
- ✓ Time value (options)
- ✓ Call/put skew (options)
- ✓ Volatility of outright prices (swaps/options)

Exploit the apparent strengths of your opponent.



## Hedging in the Red Zone: Leveraging “Negative” Market Attributes

Costless tools are available that can enable your company to leverage:

Implied Volatility and Time Value through structures that allow you to ratably purchase forward swaps at a significant discount to today’s market

... eliminate the anxiety you feel waiting for the market to reach your level

Volatility of Outright Prices to automatically “eliminate” negative obligations of an option structure (i.e. a put from a collar) or to engage a positive attribute like converting a swap into a call

... rather than hating price volatility, you may actually enjoy a benefit from it

Call / Put Skew through structures that provide more favorable payouts than traditional collars

... you will feel comfortable over a wider range of market conditions



“Markets can remain irrational longer than you can remain solvent.”

Keynes

Don't put yourself in the position of needing to throw the “Hail Mary”.

Don't be afraid to buy value.

Don't be afraid to manage in the Red Zone.



# Cargill Risk Management

- Specializes in providing tailored hedging structures that maximize hedge performance:
  - leverage “negative” market attributes
  - incorporate the views & objectives of the customer
  
- Most structures are costless or low cost. (extensively used internally within Cargill)
  
- Started in 1994
  - Customer risk management portfolio has grown to over \$ 9 billion.
  - 10 offices around the globe, including three dedicated to energy
  
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