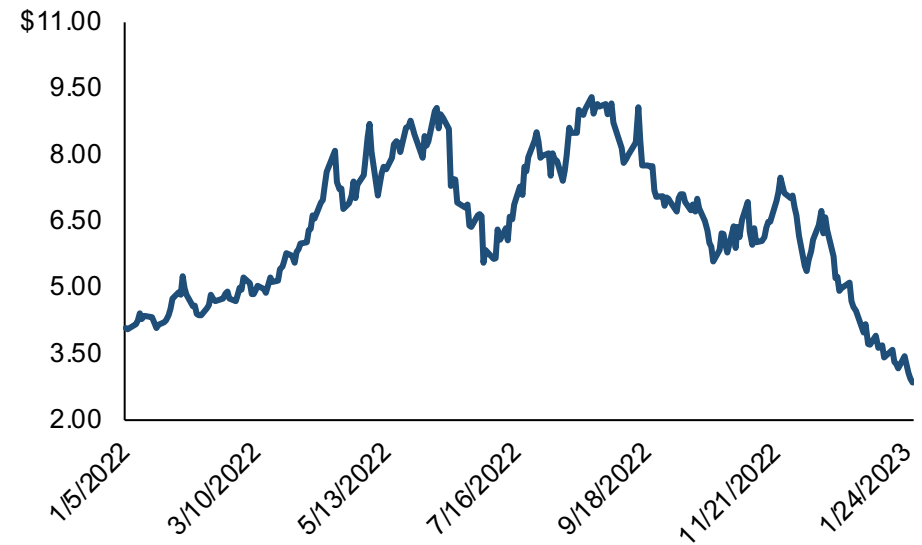


### NGJ23 | One-Year Price Chart



#### Position Details

- Natural Gas | NGJ23
- Underlying Price: \$2.58
- Strip Straddle
- Expiration Date: March 28<sup>th</sup>, 2023

#### Energy Sector

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- I. Product & Position Overview
- II. Macroeconomic Thesis
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## I. Product & Position Overview

## Product & Position Overview

### Product Description

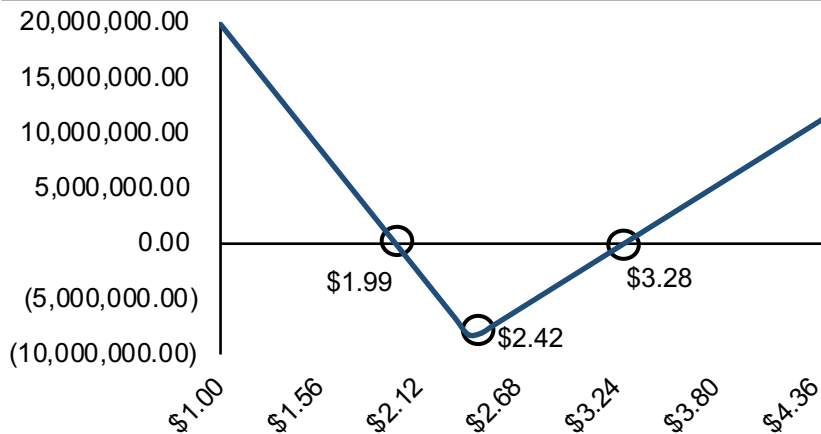
- **Natural Gas**

- Natural Gas is a fossil fuel that is primarily composed of methane. It is extracted from underground and, in many cases, can be a byproduct of the oil drilling technique known as fracking.
- Over two-thirds of all-natural gas are used for electric power and industrial purposes in the U.S.
- Contract size: 10,000.00 MMBtu

- **Major Countries Involved**

- |                          |                          |
|--------------------------|--------------------------|
| • Producers              | • Consumers              |
| • United States   25.00% | • United States   22.00% |
| • Russia   19.00%        | • Russia   12.00%        |
| • Iran   6.50%           | • China   5.00%          |

### Payoff Diagram



### Trade Breakdown

- **Strip Straddle**

- A strip straddle is essentially a long straddle but instead utilizes two puts for every one call. This bearish neutral strategy is used when expecting high volatility in the market but thesis is skewed bearish

- **Setup**

- We Buy – 1000 \$2.42 ITM Calls | NGJ23
- We Buy – 2000 \$2.42 OTM Puts | NGJ23
- Max Loss: \$8,600,000.00
- Max Profit: Theoretically unlimited

- **Expiration**

- Date: March 28<sup>th</sup>, 2023

### Exit Strategy & Potential Hedge Strategy

- **Bull Base & Bear Case**

- Upper Breakeven- \$3.28
  - **\$4.00 / \$3.30 / \$2.42**
- Lower Breakeven – \$1.99
  - **\$1.60 / \$2.00 / \$2.42**

- **Methodology**

- The Sector believes the underlying will increase in volatility throughout the duration of the trade producing price swings greater than 25.00%

- **Hedge Strategy**

- The Sector will look to sell one side of the straddle if our position declines more than 30.00% before expiration



## II. Macroeconomic Thesis

### Macroeconomic Thesis

#### Macroeconomic Summary

##### Warm Weather In Europe

- Following fears last year that Europe wouldn't have enough supply for the frigid winter months, Europe has seen warmer temperatures and a surplus of natural gas supply
- Maxar is forecasting a total of 71.9 heating-degree days in the beginning of February, which is well below the ten-year average
  - The European Center for Medium Term Weather is forecasting temperatures to be 17.00% higher in the coming month in North-Western Europe

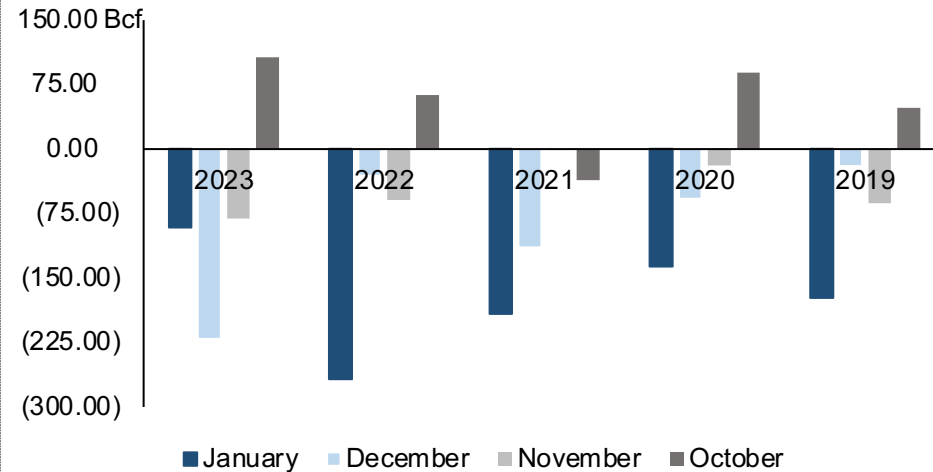
##### Re-opening Of The Freeport LNG Plant

- Freeport LNG, the second-largest U.S. LNG exporter, said it had completed repairs to its plant and asked U.S. regulators for permission to take early steps to restart the fire-idled facility
- Freeport has already delayed the plant's planned restart date many times from October to November to December and most recently to January. However, Energy analysts said they do not expect Freeport to return to service until March or later
  - Freeport is important to the gas market because prices and global demand will likely rise once the plant restarts

##### Increasing Natural Gas Inventories

- The U.S. Energy Information Administration said inventories for the week ending Jan. 20 fell by 91 Bcf.
  - A pull of 217 Bcf was recorded during the same week last year, while the five-year average draw is 185 Bcf.
- Inventory data continues to indicate a lack of demand for natural gas as domestic inventories continue to build up
- European storage is currently at 72% full, above the five-year average of 54% for this time of year

#### U.S. Natural Gas Inventory Withdrawals | Five-Year Chart



#### Market Pros & Cons

- Uncertainty around demand from China
- Russia-Ukraine conflict escalates
- Natural gas market reaches an equilibrium
- Lower temperatures throughout our trade



## III. Risk Analysis

## Risk Analysis

### Directional & Magnitude Risk

---

- **Delta Analysis**
  - The trade has a Delta value of  $-0.0267$
  - The trade benefits from extreme bullish or bearish price movement of the underlying
- **Gamma Analysis**
  - The trade has a Gamma value of  $0.3912$
  - Increases or decreases in the underlying price will have a slight effect on Delta, moving our position further ITM

### Implied Volatility Risk

---

- **Vega Analysis**
  - The trade has a Vega value of  $0.0037$
  - Vega is positive on this trade as the position benefits from higher volatility. Increases in volatility increase the chance of the underlying becoming profitable
  - Implied volatility for both position legs is  $95.00\%$

### Time Risk

---

- **Theta Analysis**
  - The trade has a Theta value of  $-0.0116$
  - Theta is negative in this trade as the potential for the position to end in the money decreases with every passing day. As we move closer to expiration the value of both the long call and the long put will decrease

### Interest Rate Risk

---

- **Rho Analysis**
  - The trade has a Rho value of  $-0.0005$
  - The low value of our net Rho shows that the position will be relatively unaffected by any change in the risk-free rate

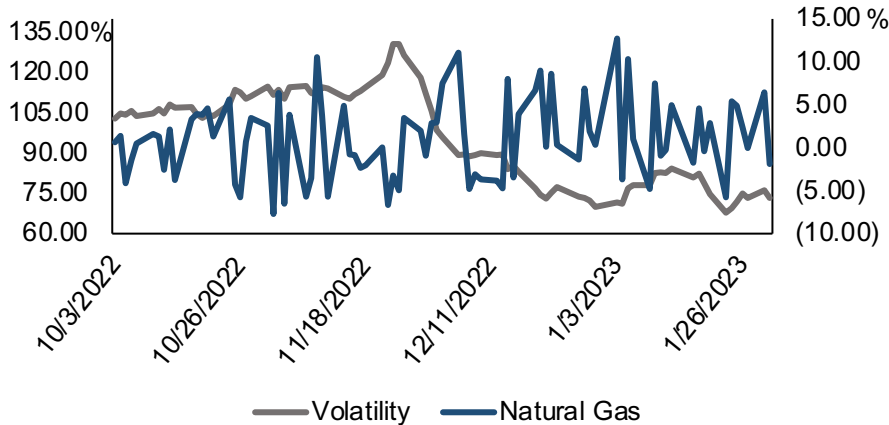




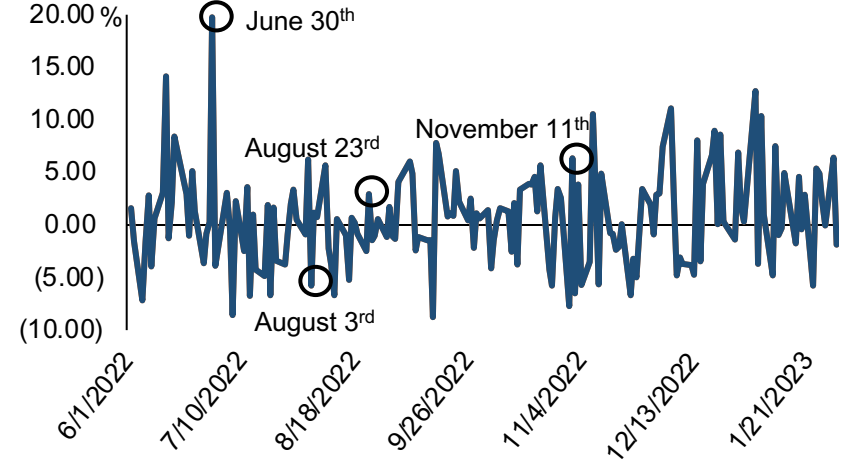
## IV. Technical Bias & Fair Value

## Technical Bias & Fair Value

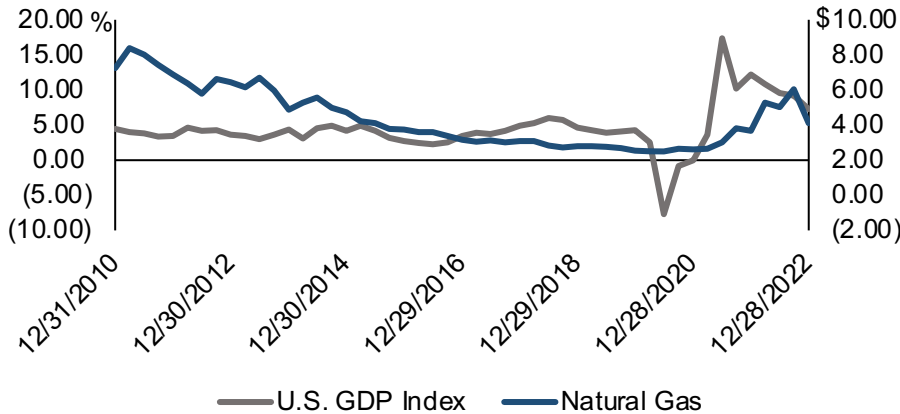
Natural Gas vs Volatility | Four-Month Chart



Natural Gas vs Freeport News Releases | Six-Month Chart



U.S. GDP vs Natural Gas | Twelve-Year Chart



### Synopsis

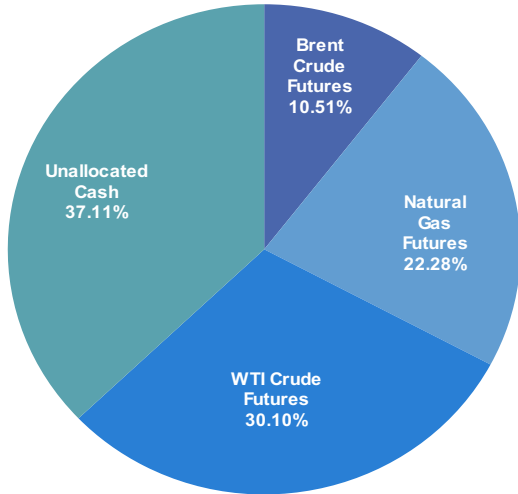
- Natural gas volatility is currently at 73.00% with a one-year average volatility of 95.00%. The implied volatility for the trade is 95.00%
  - We expect volatility to return to the one-year average of 95.00% throughout the duration of our trade
- Energy investors are looking ahead towards the re-opening of the Freeport LNG plant for increased natural gas prices and demand
  - Natural gas has been extremely volatile, three-month volatility is at 78.00%, with Freeport news releases creating heavy price swings in anticipation of the plants re-opening
- As U.S. GDP declines and recession fears remain, domestic natural gas demand can be expected to fall in the coming months



## VI. Capital Allocation

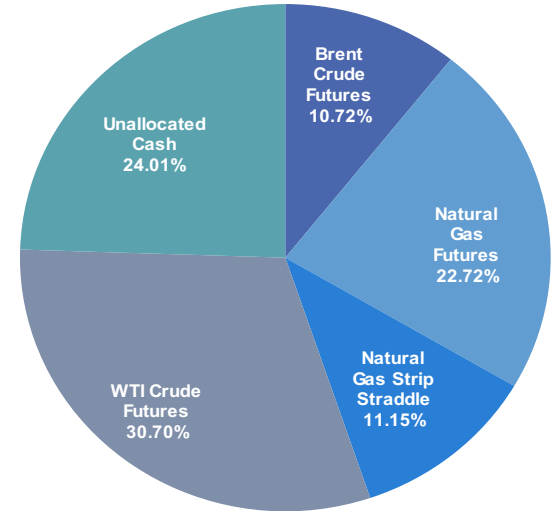
### Capital Allocation

**Current Portfolio Allocation**

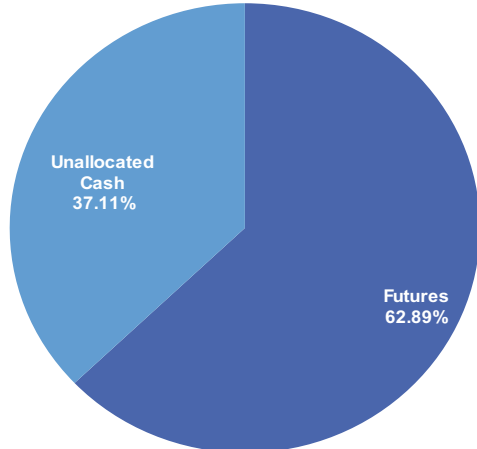


Transaction Summary		
Ticker	Position Change	
	Contracts	Allocation
Brent Crude Futures	0	\$0.00
Natural Gas Futures	0	\$0.00
WTI Crude Futures	0	\$0.00
Natural Gas Strip Straddle	+ 3000	\$8,600,000.00
Allocation Change		(\$8,600,000.00)

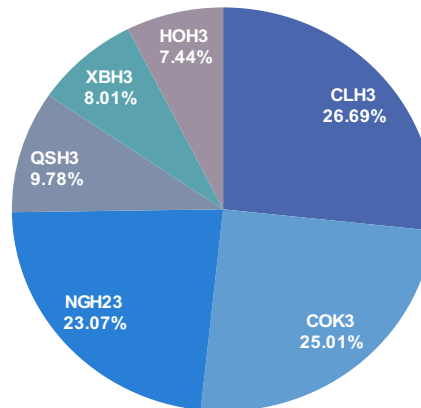
**Proposed Portfolio Allocation**



**Current Position Allocation**



**Benchmark Allocation**



**Proposed Position Allocation**

