

The U.S. Propane Market "From Famine to Feast"

Prepared By:
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Purvin & Gertz, Inc.

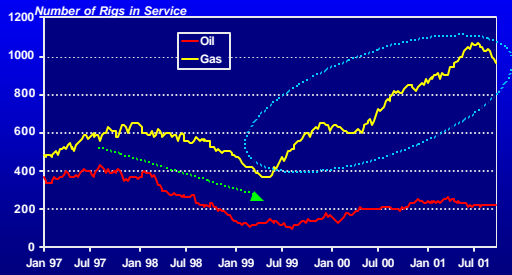


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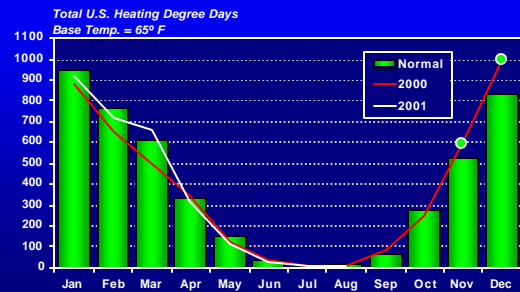
Drilling Rigs Operating In The U.S. Dropped Rapidly During 1998



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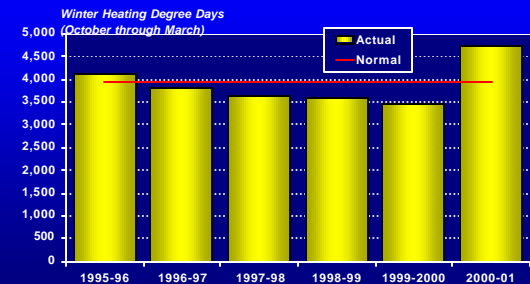
The Early Winter Of 2000-2001 Was Unusually Cold



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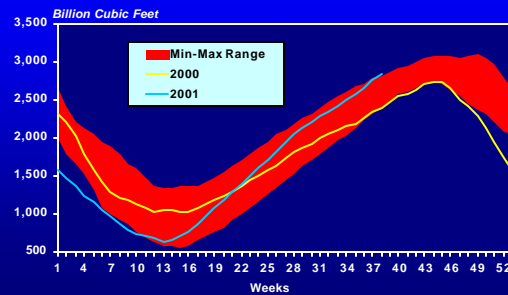
The Entire 2000-2001 Winter Was Also Unusually Cold



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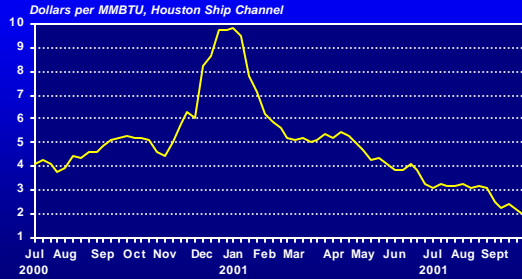
Working Natural Gas In Storage Dropped To Record Low Levels



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Spot Natural Gas Prices Spiked, But Have Since Plummeted



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Mont Belvieu Spot Propane Prices Tracked (But Lagged) Gas Prices



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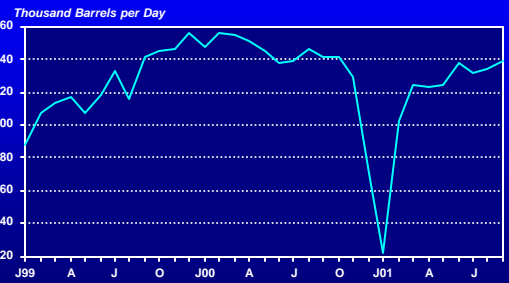
Gas Plant Propane Margins Became Very Negative



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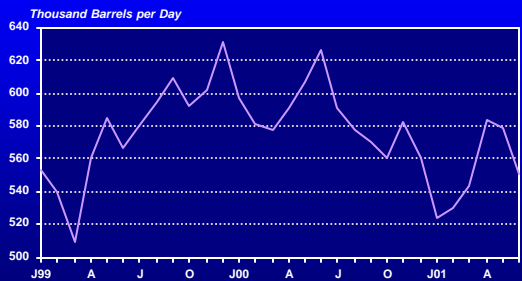
Propane Production Rates By Gas Plants Dropped, But Are On The Rise



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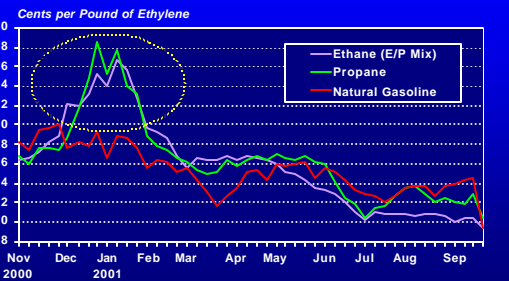
Total Propane Production By Refineries In The U.S. Dropped, But Only Partially Recovered



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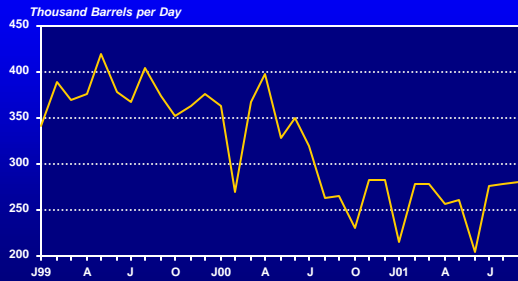
Ethylene Cracking Costs Rose Very Quickly During Winter



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Propane Cracking Rates Dropped And Remained Low



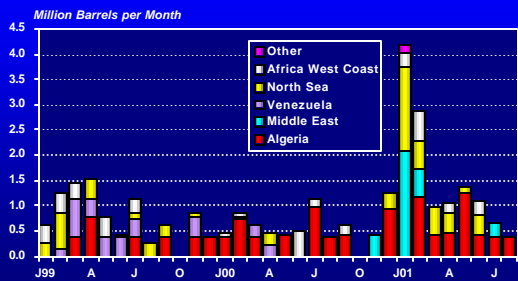
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The Feast

Waterborne Imports Of Propane Poured Into The U.S.

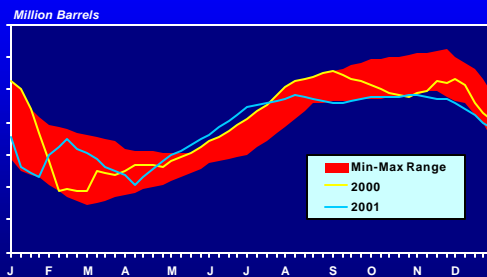


Source: Commercial Services Company, Ltd.

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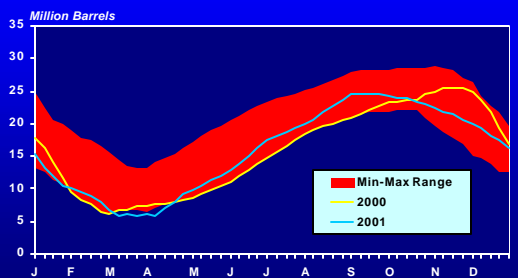
East Coast Stocks May Remain Low



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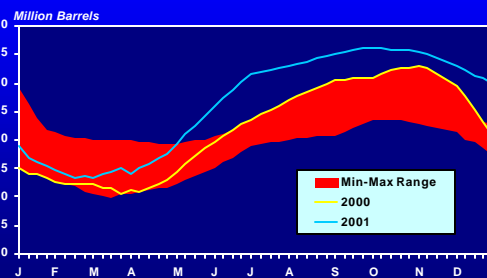
Mid-Continent Stocks Should Be O.K.



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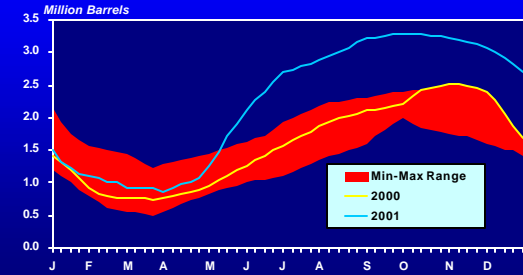
U.S. Gulf Coast Stocks Should Remain Unusually High



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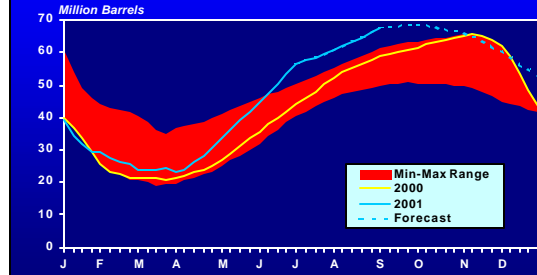
Western U.S. Stocks Will Likely Remain High



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U.S. Propane Stocks Should Approach 70 Million Barrels



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The Factors Having A Bearing On 2001

- ❖ State of the Economy & Petrochemical Demand
- ❖ Waterborne LPG Market Factors
- ❖ Natural Gas Prices & Gas Processing Economics

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Factor 1: Petrochemical Demand

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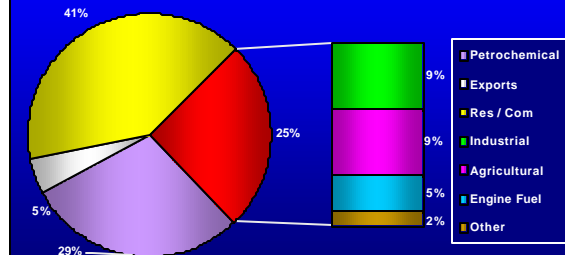
In 2000 the U.S. Propane Market . . .

- ❖ Totaled 1.06 MM B/D
- ❖ Petrochemical Consumption Accounted for 309,000 B/D
- ❖ Retail Propane Consumption Accounted for 696,000 B/D
- ❖ Exports of 53,000 B/D Accounted for the Remaining Demand

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The U.S. "Propane Pie"



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Remember That . . .

- ❖ High Prices in Late 2000 Caused Petrochemical Demand for Propane to Drop
- ❖ P/C Demand in 1999 Averaged 375,000 B/D – or 66,000 B/D More Than 2000
- ❖ A Rebound in the Economy Could Result in Higher Demand for Propane, Then Again – YTD Demand is Lagging 2000 by 100 M B/D and the U.S. Economy is Weakening Further

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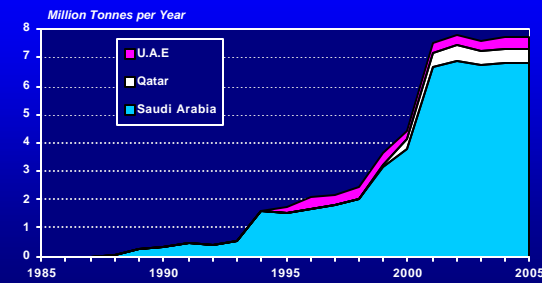
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Factor 2: Foreign Supply Needs

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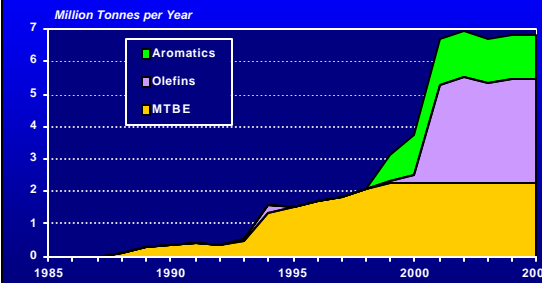
Middle East Chemical LPG Demand Is Rising In Several Countries



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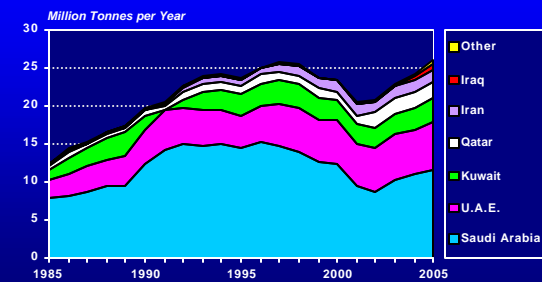
Middle East LPG Chemical Demand Is Becoming Very Diverse



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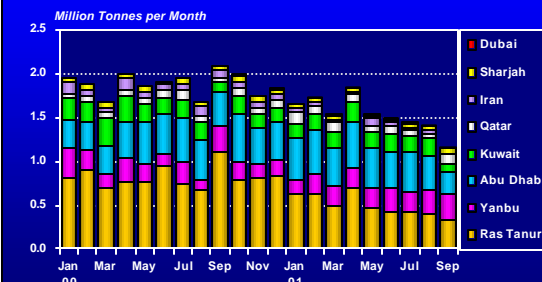
Middle East LPG Exports Should Begin To Increase Next Year



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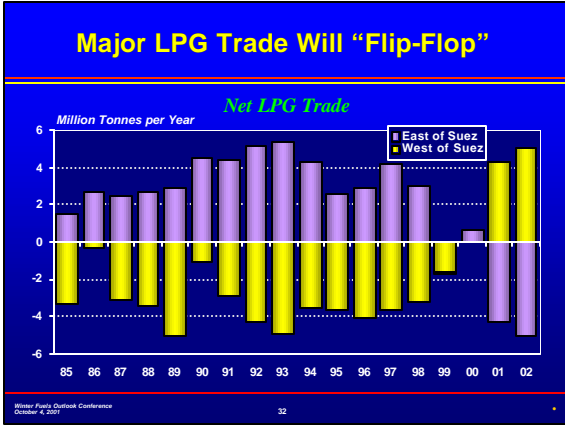
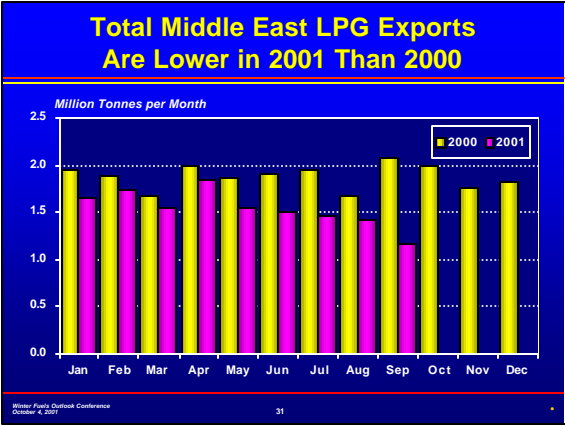
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Middle East LPG Exports Are Declining



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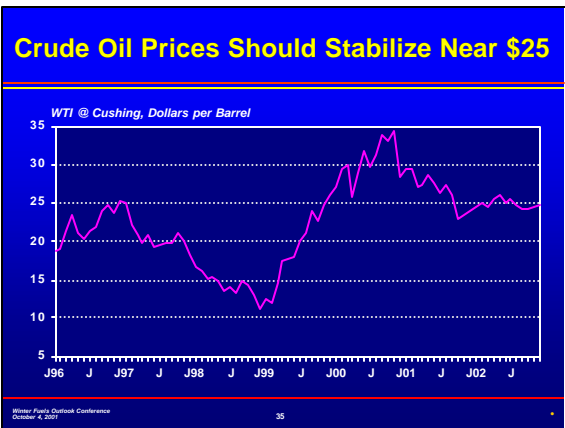
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Factor 3: World Crude Oil Prices

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- ### What Goes Up Must Come Down
- ❖ Can Current Crude Prices Hold Forever?
 - ❖ Can the World Economy Absorb High Crude Prices for Very Long?
 - ❖ Why Do Propane Prices Track Crude Oil?
 - ❖ What is the Purvin & Gertz View?
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Factor 4: Natural Gas Prices and Gas Processing Economics

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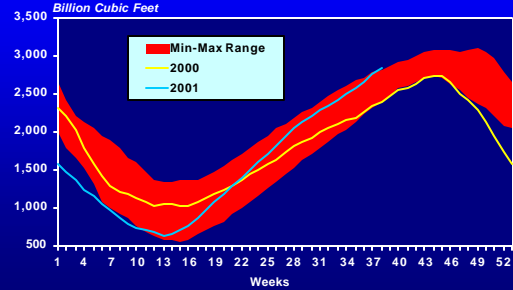
Questions About The U.S. Natural Gas Market Still Remain

- ❖ How Much Will Production Increase?
- ❖ How Much Industrial Demand Was Lost and Regained?
- ❖ How Will Weather Affect the Market?
 - Summer air-conditioning demand
 - Hurricane disruptions
 - Early winter demand

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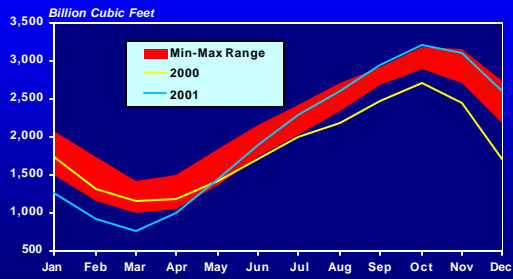
Working Gas In Storage Has Risen Very Fast



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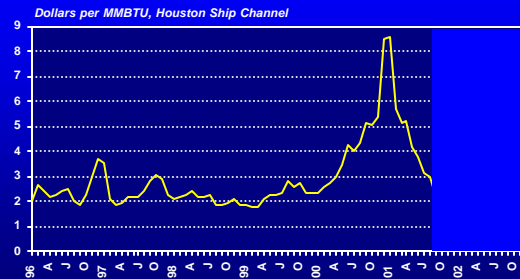
Gas Storage Levels Will Likely Be High This Year



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Monthly Spot Gas Prices Have Plummeted Since Winter



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Gas Plant Propane Margins Are Expected To Remain High



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Thus – A Few Conclusions

- ❖ Propane Supply Looks Good for 2001
- ❖ Mid-Continent Region Could be of Concern
- ❖ Lower Spot Propane Prices Are Reflecting Surge in Stock Levels and Lower Petrochemical Demand
- ❖ Logistical Problems Will Most Likely Surface Again This Winter
- ❖ Price Volatility Will Remain
 - More Downside With High Stock Build
 - More Upside With Return of Petrochem Demand

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