US Olefins
MARKET (R)EVOLUTION
Platts Asia Olefins 2014
Lawson Brice
Introduction & Agenda

- About Accord Petrochemical Brokerage, LLC
- Disclaimer
- Fundamentals of US Olefins Market
- What it means for International Markets
- Spot Market Growth!
- USGC Pricing Trends
- Potential Growth of the Petrochemical Chain
About Accord / Lawson Brice

• Leading Olefins Brokerage in North America

• Launched North America’s 1st Olefins Voice desk in 2004
• Launched Lozier Energy Wire in 2006
• Facilitated NYMEX Ethylene Benchmark 2009
• Facilitated NYMEX Propylene Benchmark 2010
• Has brokered over 25.9 Billion Pounds of Spot Olefins
Disclaimer

• THIS IS NEITHER A SOLICITATION NOR AN OFFER TO BUY OR SELL COMMODITY INTERESTS.
  – We do not buy or sell futures nor accept any customer funds
  – This is an overview of the North American Olefins spot market, in which financial futures do trade.
  – Thus anyone considering participation should be aware of the risks of trading in futures, as detailed on the National Futures Association site:
The following statement is furnished pursuant to Commodity Futures Trading Commission (“CFTC”) Regulation 1.55(c). This brief statement does not disclose all of the risks and other significant aspects of trading in futures and options. In light of the risks, you should undertake such transactions only if you understand the nature of the contracts (and contractual relationships) into which you are entering and the extent of your exposure to risk. Trading in futures and options is not suitable for many members of the public. You should carefully consider whether trading is appropriate for you in light of your experience, objectives, financial resources and other relevant circumstances.
The Role of An Olefins Broker

• Connect Buyers and Sellers
• Take NO Title to any Material
• Provide Price Discovery
• Maintain Anonymity & Confidentiality
• Provide Market & Logistical Insight
US *Ethylene* market fundamentals

- Contained Pipeline System
- Trading Hubs:
  - Mt. Belvieu, Texas
  - Choctaw, Louisiana
US Ethylene market fundamentals

• Plant sites are connected by a complex web of pipelines

• Trades can be a series of exchanges (not all are pure hub / well transactions)

Note the Complexity

Map Sample of East TX Ethylene Grid
Global Ethylene Implications

- Proprietary Pipeline system limits global trading access
  - One Texas terminal exists
  - One Louisiana terminal exists but is currently closed
  - Effect on US spot market: most ethylene trade is regional
Lessons from history

Markets that have “evolved” from contracts to exclusively spot:

- Crude Oil (1970’s)
- Natural Gas (1980’s)
- NGLs (1990’s)
Why Spot Liquidity Increases

- **Economic Incentives** Facilitated by
  - Broadening View of the Supply Chain
    - Absorb & Pass Costs
    - Capture & Hedge Margins
  - Minimizing or Maximizing Contract Volume
  - Availability of Storage in TX & LA systems
  - Monetizing Pipeline Assets & Location Differences
  - Entry of New Participants, Trading and Hedging
Spot Ethylene Total Volumes 2005-Present

Data source: PetroChem Wire
## Ethylene Spot Market Development

<table>
<thead>
<tr>
<th>Year</th>
<th>MM Lbs</th>
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<tbody>
<tr>
<td>2004</td>
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<tr>
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<td>2006</td>
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<td>2007</td>
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<td>2008</td>
<td>342.42</td>
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<td>2009</td>
<td>402.00</td>
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<tr>
<td>2010</td>
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<tr>
<td>2011</td>
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<td>2012</td>
<td>500.38</td>
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<tr>
<td>2013</td>
<td>541.91</td>
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Data source: PetroChem Wire
Ethylene v. Ethane: 2007

Ethylene / Avg price = 43.27 cpp
Ethane / Avg price = 26.72 cpp
**Ethylene v. Ethane : 2010**

Operating rates stayed below 90% - planned TAs began.

Ethylene / Avg price = 45.5 cpp

Ethane / Avg price = 20 cpp

Op rates fell to 85%

Ethylene operating rate in Texas fell to 85% - freezing, power outages
Ethylene v. Ethane: 2013

- Ethylene-TX / Avg price = 56.59 cpp
- Ethylene-LA / Avg Price = 60.93 cpp
- Ethane/ Avg price = 8.74 cpp
HDPE v. Ethylene : 2013

HDPE BM Delivered East of Rockies / Avg price = 68.5 cpp
HDPE BM FOB Chicago / Avg price = 65.75 cpp
HDPE BM FOB Houston / Avg price = 62.5 cpp
Ethylene-TX / Avg price = 56.59 cpp
Introducing Brokers can Clear Brokered, Bilateral Physical Ethylene and Financial Futures for Ethylene and Propylene via CME ClearPort
US Propylene market fundamentals

It is a contained pipeline system, mostly in Texas
RGP market fundamentals

- RGP prices move with:
  - Price of crude or gasoline
  - PGP/CGP supply / demand
  - Influence of small # of deals trending up or down
- Export / Import markets for RGP and PGP are NOT broker-accessible due to proprietary pipelines
- Prior to the Growth of the PGP Hub, RGP spot was the best *market indicator* of N.A. Propylene Price
- Most US CGP and PGP is priced by contract negotiation, yielding a single number for a month
Advent of the PGP Hub

- Mt. Belvieu PGP Hub Developing at Enterprise

- International PGP trading still not broker accessible
### PGP Spot Market Development

<table>
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<th>Total</th>
<th>MM Lbs</th>
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<td>2012</td>
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<td>2013</td>
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<table>
<thead>
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<th>Avg / Month</th>
<th>MM Lbs</th>
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<td>2012</td>
<td>107.70</td>
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<tr>
<td>2013</td>
<td>139.36</td>
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Data source: PetroChem Wire
The Big Picture: Petrochemical Chain

Prices move at different speeds.
Downstream pricing lags.

...who feels the most pain ???

Midstream
The Potential of the Chain

Existing Spread Trade

CL → NG
NG → NGL
NGL → Resins / Poly’s

Developing Spread Trade

CL → NGL
NGL → Monomer Olefins
Monomer Olefins → Resins / Poly’s

Potential Spread Trades if Commodities Linked
How To Get More Involved

• **See Accord For:**
  – Live Markets & Prices
  – Clearing
  – Hedging
  – Maps

**THANK YOU!**

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