

PCW Olefins Methodology

PetroChem Wire publishes via daily e-mail and on its Web site (www.petrochemwire.com) closing prices for ethylene and propylene at the close of each trading day for two ethylene systems (Mont Belvieu-Williams, Choctaw), PGP (Mont Belvieu-EPC) and RGP (Mont Belvieu-EPC).

PetroChem Wire spot market olefins information is gathered from the market at large. All deals, bids and offers are directly confirmed to be firm and valid by editors employed by PetroChem Wire LLC.

PetroChem Wire publishes confirmed “Done Deals” each day on its Web site. Deals must be reported and confirmed by at least one deal participant. Published deals must also include confirmed volume, delivery month and transmission system. Only deals with an outright price are published by PetroChem Wire. Deals concluded on an index basis are not published by PetroChem Wire. Ethylene deal information is published for the three “open” pipeline systems (Mont Belvieu - Other, Mont Belvieu - Williams, Louisiana - Choctaw). RGP and PGP deal information is published for material that is transacted at one location (Mont Belvieu - Enterprise), transacted on FOB basis only, in any transmission mode which may include pipeline, truck, rail or rack at that location.

PetroChem Wire publishes a weighted monthly average price for ethylene and refinery grade propylene on the first business day of each month, which is e-mailed to each subscriber, along with a price summary of the deals used to calculate that average. Weighted average prices are determined by dividing the sum of deal prices by the sum of deal volume for a calendar month. Volumes used to calculate the averages are published in aggregate form as Mont Belvieu-Williams, Mt Belvieu – All (which includes Mt B – Wms and also Mt B-Other), Choctaw and Combined Texas & Louisiana. Monthly average prices are calculated using deals completed in the three ethylene systems (Mont Belvieu - Other, Mont Belvieu - Williams, Louisiana - Choctaw), PGP (Mont Belvieu – Enterprise) and RGP (Mont Belvieu - Enterprise) and are separated into current-month and next-month delivery.

PetroChem Wire publishes a 45-day Weighted Average of Ethylene deals concluded from the 16th day of the previous month through the final trading day of the current month for the same delivery month, i.e. all February deals concluded from January 16 through February 29. Volumes used to calculate the averages are published in aggregate form only.

PetroChem Wire also publishes a daily forward curve for ethylene and polymer grade propylene that includes price assessments for markets extending 24 months into the future. Prices are determined by the most recent outright price deals concluded for specific time periods including months (such as January 2013 at \$0.60/lb) and combined periods (Jan-Feb 2013 at \$0.60/lb, 1Q 2013 at \$0.59/lb, etc) and also spread trades that demonstrate relative value to time periods (such as Jan-Feb at 1 cpp backward, Jan/2Q at 1.5 cpp backward, etc).

PCW assesses closing values as the last-done transaction UNLESS a bid is above that transaction or an offer is below it "at the close" - assessing value above an unanswered bid or below an unanswered offer.

Example: Aug ethylene trades at 70 cpp at 1 pm. Between 2 pm and 3 pm, it is bid at 70.5 cpp and offered at 74 cpp. PCW would assess the closing price at 70.625 cpp.

The close is currently defined as 3 pm US Central Time.

Priority of Information. In determining values for each day's assessment, a variety of information is considered. Some information is inherently more influential. In ranking order, information of the following type is considered when assessing cash market prices:

1. Firm bids and offers. Assessments must fall between the highest bid and the lowest offer. Bids and offers must be on an outright price basis, such as \$0.50/lb.

2. Done deals. When confirmed transactions fall within a market's closing bid/ask range, the latest confirmed transaction will often be the assessment. Bids and offers must be on an outright price basis, such as \$0.50/lb.

3. Formula-based/floating price deals, bids and/or offers. In the absence of outright prices, transactions and firm bid/offer ranges on a relative basis (such as time spreads or on a feedstock basis) can be considered as an indicator or value.

4. Paper (swaps) deals, bids and/or offers. In the absence of physical market prices, transactions and firm bid/offer ranges in paper markets can be considered as an indicator of value.

PCW publishes a bid, offer and closing price for each resin category described above. A bid or an offer is considered to be firm when it is demonstrated to be available to the market-at-large for a minimum of 15 minutes. Such demonstrations could include posting bids and/or offers through a voice broker or an electronic trading platform.

PetroChem Wire editors must reserve the right to exercise editorial judgment in not including certain information in its daily published information either for lack of clarity or lack of detail needed to confirm information.