THOMSON REUTERS STREETEVENTS

EDITED TRANSCRIPT

OLN - Q2 2017 Olin Corp Earnings Call

EVENT DATE/TIME: AUGUST 01, 2017 / 2:00PM GMT

OVERVIEW:

OLN reported 2Q17 results.

THOMSON REUTERS

CORPORATE PARTICIPANTS

James A. Varilek *Olin Corporation - EVP and President of Chlor Alkali Vinyls & Services*

John E. Fischer *Olin Corporation - Chairman, CEO and President*

Larry P. Kromidas *Olin Corporation - Director of IR and Assistant Treasurer*

Pat D. Dawson *Olin Corporation - EVP and President of Epoxy & International*

Todd A. Slater *Olin Corporation - CFO and VP*

CONFERENCE CALL PARTICIPANTS

Aleksi V. Yefremov *Nomura Securities Co. Ltd., Research Division - VP*

Arun Shankar Viswanathan *RBC Capital Markets, LLC, Research Division - Analyst*

Aziza Gazieva *Wells Fargo Securities, LLC, Research Division - Associate Analyst*

Dmitry Silversteyn *Longbow Research LLC - Senior Research Analyst*

Donald David Carson *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

Jason Alexander Freuchtel *SunTrust Robinson Humphrey, Inc., Research Division - Associate*

Joshua David Spector *UBS Investment Bank, Research Division - Equity Research Associate - Chemicals*

Kevin William McCarthy *Vertical Research Partners, LLC - Partner*

Matthew Robert Lovseth Blair *Tudor, Pickering, Holt & Co. Securities, Inc., Research Division - Director, Chemicals and Refining Research*

Steve Byrne *BofA Merrill Lynch, Research Division - Director of Equity Research*

Ian Bennett *Bank of America Merrill Lynch - Analyst*

PRESENTATION

Operator

Good day, everyone, and welcome to the Olin Corporation Second Quarter 2017 Earnings Conference Call. (Operator Instructions) And please also note that this event is being recorded.

I would now like to turn the conference over to Larry Kromidas, Director of Investor Relations. Please go ahead.

Larry P. Kromidas - *Olin Corporation - Director of IR and Assistant Treasurer*

Thank you, William. Good morning, everyone. Before we begin this morning, I want to remind everyone that this presentation, along with the associated slides and the question-and-answer session following our prepared remarks, will include statements regarding estimates of future performance. Please note that these are forward-looking statements and that actual results could differ materially from those projected. Some of the factors that could cause actual results to differ are described, without limitations, in our Risk Factors section of the most recent Form 10-K and in our second quarter earnings press release.

A copy of today's transcript and slides will be available on our website in the Investors section under Calendar of Events. The earnings press release and other financial data and information are available under Press Releases.

With me this morning are John Fischer, Olin's Chairman, President and Chief Executive Officer; Pat Dawson, Executive Vice President and President, Epoxy and International; Jim Varilek, Executive Vice President and President, Chlor Alkali Products and Vinyls and Services; and Todd Slater, Vice President and Chief Financial Officer.

Now I'd like to turn the call over to John Fischer. John?

John E. Fischer *- Olin Corporation - Chairman, CEO and President*

Good morning, and thank you for joining us today.

During this morning's call, we will first discuss our second quarter results before revealing our outlook for the second half of the year and the key factors in earning $1 billion of adjusted EBITDA in 2017.

The second quarter adjusted EBITDA of $180.3 million fell short of expectations due to two factors. The first factor was the combined impact of the extended vinyl chloride monomer or VCM plant turnaround and the unplanned epoxy outage. The second factor was weaker-than-expected results in the Winchester business, which experienced a second quarter year-over-year decline in commercial ammunition sales of approximately $21 million.

Let me discuss the impact of the maintenance turnaround and outages, a summary of which is provided on the attached Slide 4.

This slide depicts our actual and forecasted maintenance turnaround costs, unabsorbed fixed manufacturing costs and reduced pretax profits from lost sales associated with turnarounds and outages by quarter for 2016 and 2017. Maintenance turnaround work for the Gulf Coast facilities is typically performed in the first half of each year in order to avoid the heat of the summer and the hurricane season, which maximizes the productivity and the efficiency of these turnarounds. At the integrated and major pipeline sites, we also coordinate with our customers' requirements.

The first half of 2017 had a high level of planned turnaround activity, including three significant turnarounds that are performed once every three to five years. During the first quarter, the entire Plaquemine, Louisiana chlor alkali facility underwent a once in every five year turnaround, which was coordinated with our large on-site customer. During the second quarter of 2017, there were two major planned maintenance turnarounds at our largest facility in Freeport, Texas. As a result, the majority of our Freeport chlor alkali assets were off-line for approximately 30 days. This turnaround was also done in coordination with our largest customer and is done once every five years. The VCM facility in Freeport also underwent a planned maintenance turnaround in the second quarter. This turnaround is performed once every three years. Because of issues encountered during the turnaround, this VCM outage was extended approximately four weeks. Finally, also during the second quarter, the Bisphenol A plant at the Freeport, Texas facility experienced an unplanned outage. This epoxy outage lasted approximately three weeks and impacted other epoxy assets, including allyl chloride, epichlorohydrin, liquid epoxy resins and solid epoxy resins. As you can see from this slide, maintenance turnaround and outage costs during the first half of 2017 totaled $159 million.

During the second half of 2017, we expect that overall maintenance turnaround costs will be approximately $110 million lower than the first half of the year. The only significant planned turnaround in the second half of the year is in the Epoxy business, which has a planned maintenance turnaround in the fourth quarter.

Finally, as we look forward, we forecast that our maintenance turnaround activities in 2018 will be meaningfully less than what we have experienced in 2017.

Now moving on to Winchester, which is described on Slide 5.

Second quarter 2017 Winchester sales decreased approximately 6% compared to the second quarter of 2016. Second quarter 2017 Winchester adjusted EBITDA of $23.5 million declined approximately $12 million from the second quarter of 2016 adjusted EBITDA. The decrease in sales and adjusted EBITDA was the result of lower commercial volumes primarily reflecting reduced demand for pistol, rifle and shotshell ammunition, partially offset by higher military sales. The second quarter 2017 adjusted EBITDA was also impacted by a less favorable product mix and higher commodity and other material costs compared to the second quarter of 2016.

During the second quarter of 2017, Winchester experienced an approximate 15% year-over-year decline in commercial ammunition sales. This decline has occurred across the Winchester commercial customer base. During 2017, commercial customers had been reducing inventory, and in many cases, our customers' ammunition -- sales of ammunition have exceeded their purchases. We also believe that ammunition consumers have reduced their purchases as the threat of adverse regulation has diminished and ammunition has become readily available. While we expect to experience stronger seasonal demand in the second half of the year, the overall reduction in both purchases and inventories will negatively impact 2017. Winchester benefited from year-over-year increases in military sales during the second quarter, and this benefit is forecast to continue through the third and fourth quarters. This military benefit, however, will only partially offset the weaker year-over-year commercial sales. And as a result, we now forecast that Winchester's full year 2017 adjusted EBITDA will be in the $115 million to $125 million range.

Now let's talk about Chlor Alkali Products, which is on Slide 6.

Second quarter 2017 sales of $865.1 million increased 18% over sales in the second quarter of 2016. The increase reflects both higher caustic soda and EDC pricing.

Chlor Alkali Products and Vinyls second quarter adjusted EBITDA increased 19% or $25.3 million year-over-year to $159.4 million. The improvement reflects the higher caustic soda and EDC pricing I just mentioned. Year-over-year pricing improved by approximately $104 million. This improvement was partially offset by 75 -- $74 million of higher maintenance costs, unabsorbed fixed manufacturing costs and reduced profit from lost sales associated with the turnarounds and outages. Electricity costs, driven by higher natural gas prices, and ethylene costs were also higher year-over-year. These increased -- these costs increased by approximately $18 million year-over-year.

Adjusted EBITDA in the Chlor Alkali Products and Vinyls segment is expected to increase significantly for full year 2017 compared to 2016, driven by higher chlorine, caustic soda and EDC pricing and additional cost synergy realization, including lower ethylene costs, partially offset by increased electricity costs as a result of higher natural gas costs and increased maintenance turnaround costs.

Caustic soda prices in the Olin system increased approximately 8% in the second quarter of 2017 compared to the first quarter and were approximately 36% higher than the second quarter of 2016 levels. These improved caustic soda prices reflect strength in both the domestic and export markets. Looking forward, the July 2017 monthly domestic caustic soda price indices increased by $15 per ton and further increases our forecast for August and September.

Olin continues to have a bullish long-term view of caustic soda prices. This is summarized on Slide 7. A couple of facts support the current Olin thesis. 2017 United States caustic soda exports are forecast to increase approximately 5% to a record level in excess of three million tons. At the same time, caustic soda exports from both Europe and China continue to trend down, while caustic soda imports into Europe continue to trend up.

Chlorine prices in the second quarter of 2017 were similar to first quarter levels and increased approximately 5% year-over-year. We believe there is also positive pricing momentum for chlorine, and the July 2017 monthly chlorine price indices increased by $15 per ton. Hydrochloric acid prices also increased in the second quarter of 2017 compared to the first quarter and are forecast to increase further in the second half.

Finally, the bleach business experienced improved volumes in the second half of 2017 compared to the second quarter of last year, driven by the new plant at the Freeport, Texas facility. On a full year basis, bleach volumes are forecast to experience growth of approximately 15%.

Let us move forward now and we'll talk about Epoxy, which is on Slide 8.

Second quarter 2017 Epoxy sales increased by approximately 9% or $42 million compared to second quarter 2016 levels as a result of both higher pricing and higher volumes. The higher prices partially offset the impact of higher raw material costs, primarily associated with benzene and propylene pricing.

Second quarter 2017 adjusted EBITDA of $14.7 million in the Epoxy business declined approximately $8 million year-over-year, reflecting the negative impact of higher raw material costs associated with benzene and propylene pricing. The higher selling prices partially offset the impact of these higher raw material costs.

During the first quarter of 2017, the Epoxy business experienced a significant increase in hydrocarbon costs, which compressed margins. These increases, depending on the region, were approximately 40% for benzene and 30% for propylene. During the second quarter of 2017, benzene prices decreased approximately 15%, and propylene prices declined in North America but increased in Europe. In both cases, second quarter 2017 prices were higher than the second quarter of 2016. The second quarter 2017 negative impact compared to the second quarter of 2016 from higher benzene and propylene prices was approximately $60 million.

During the first half of 2017, price increases were initiated to offset the raw material input costs. We have been successful at increasing prices, but these increases did not fully offset year-over-year hydrocarbon costs in the second quarter. We realized approximately $40 million of improved product pricing in the second quarter compared to the second quarter of 2016. During the first 6 months of 2017, pricing has increased approximately $80 million compared to the first half of 2016.

Despite the unplanned outage in the second quarter, Epoxy volumes improved approximately 5% year-over-year in the second quarter. We saw year-over-year volume improvements in both North America and Europe. Increased Epoxy volumes also benefit our Chlor Alkali Products and Vinyls segment by improving our chlor alkali operating rates and liberating additional caustic soda for sale as the Epoxy products are net consumer of chlorine in our system.

As we look forward to the fourth -- third quarter, we are forecasting benzene and propylene prices to decline moderately from the second quarter. We are forecasting that contributions from the pricing actions and a modest decline in benzene and propylene costs will restore margins to third quarter 2016 levels. For the full year 2017, we expect the Epoxy business will have improved volumes and pricing year-over-year, but these benefits are expected to be more than offset by the higher hydrocarbon costs and increased turnaround and outage costs. As a result, we now believe that the full year 2017 Epoxy adjusted EBITDA will be equal to or slightly lower than 2016.

Our outlook for the second half of 2017 is on Slide 9. We expect meaningful improvement in adjusted EBITDA in the second half of 2017 compared to the first half. As we previously discussed, we expect maintenance turnaround costs to be approximately $110 million lower in the second half of 2017 than they were in the first half. The Chlor Alkali Products and Vinyls business are expected to benefit from higher chlorine and caustic soda prices, strong volumes and lower ethylene costs.

Since the second quarter of 2016, Olin has consistently experienced quarter-to-quarter improvement in both -- the prices of both chlorine and caustic soda. We are forecasting that to continue through the third and fourth quarters of 2017. These second half improvements reflect the July 1 caustic soda price increase announcement of $55 to $75 per ton and the chlorine pricing announcements of $25 to $35 per ton. In addition, in the second half, we expect prices for both bleach and hydrochloric acid to improve compared to the first half.

For many of our products, our third quarter is typically the peak quarter for demand, and this will support the stronger second half results. These products include merchant chlorine, bleach, liquid epoxy resins and commercial ammunition. Demand for hydrochloric acid has also been improving, and this will benefit the third quarter.

During the third quarter, we expect to procure the second tranche of cost-based ethylene. During the first half of 2017, this was procured at market prices. Depending on ethane costs and market-based ethylene prices, this represents an annual savings opportunity of $40 to $50 million. During its recent earnings call, Dow described the startup of their new cracker as "imminent". This startup triggers the purchase of the second ethylene tranche by Olin.

We also expect improved performance from both the Epoxy and Winchester businesses in the second half of 2017 compared to the first half of the year. The second half 2017 Epoxy results are expected to benefit from higher pricing and lower raw material costs than we experienced in the first half of the year.

A negative that we are forecasting in the second half compared to the first half is EDC pricing, which is expected to increase in 2017 compared to 2016 but is expected to be lower than the second half 2017 compared to the first half.

While Olin was significantly challenged by maintenance turnarounds and outages during the second quarter, the underlying fundamentals and profit generation of the chemical businesses continued to improve. Two of the planned outages that were completed in the second quarter are the largest and most complicated the New Olin faces, and they are now behind us. The plants have been running well since the turnarounds were completed. The continually improving outlook for volume and pricing gives us confidence in the second half of 2017 and beyond.

I want to reiterate that our annual adjusted EBITDA forecast of $1 billion with upside opportunities and downside risks of approximately 5% remains intact.

And with that, I'll turn the call over to Todd Slater.

Todd A. Slater - *Olin Corporation - CFO and VP*

Thanks, John.

Let's turn to our 2017 cash flow forecast, which is on Slide 11. We expect to generate $500 million of free cash flow before dividend payments and before the $209 million ethylene investment that we expect to make soon. Our expectation is that by the end of 2017, the combination of debt reduction and EBITDA growth will reduce the net debt-to-EBITDA leverage ratio to the range of 3.1 to 3.3 times.

Starting with the midpoint of our full year adjusted EBITDA forecast of $1 billion, on the far left of the waterfall chart, we add back $10 million in taxes reflecting the proceeds from an income tax refund in 2017. In 2017, we continue to believe that the book effective tax rate will be in the 25% to 30% range and we do not expect to be a cash taxpayer in 2017. This reflects the utilization of net operating loss carryforwards created over the last two years. We expect net operating loss carryforward to provide a cash tax shield of approximately $70 million in 2017. Additionally, we currently expect to exit 2017 with unused operating loss carryforwards to provide a cash tax shield in the future years of approximately $60 to $70 million.

Column three shows capital spending we expect to make in 2017. The $325 million is the midpoint of our current forecast for capital spending, with annual maintenance capital spending of between $225 and $275 million.

Last year, Olin entered into a program to accelerate the collection of receivables, which create a permanent working capital reduction of $126 million in 2016. We expect to expand this program in 2017 and realize an additional $50 million reduction in receivables. This, when combined with an inventory reduction at Winchester, will generate $75 million of cash flow from working capital reductions in 2017.

The next column, one-time items include integration and cash restructuring costs of approximately $50 million. This is consistent with our prior forecast.

The next column reflects an estimate of interest expense. We have approximately 30% of our debt at variable interest rates, and we're forecasting 2017 interest rates will be higher than those we experienced in 2016.

On the far-right column, we are forecasting $159 million of free cash flow after paying our normal quarterly dividend totaling $132 million for the year and the $209 million investment for 20 years of additional ethylene at producer economics.

Finally:

Last Thursday, July 27th, Olin's Board of Directors declared a dividend of $0.20 on each share of Olin common stock. The dividend is payable on September 11, 2017, to shareholders of record at the close of business on August 10, 2017. This is the 363rd consecutive quarterly dividend to be paid by the company.

Operator, we are now ready to take questions.

QUESTIONS AND ANSWERS

Operator

(Operator Instructions) And the first questioner today will be Frank Mitsch with Wells Fargo.

Aziza Gazieva - *Wells Fargo Securities, LLC, Research Division - Associate Analyst*

It's Aziza on for Frank. First question, can you guys explain the change in your 2017 EDC pricing outlook? It looks like you guys were previously guiding to a 25% year-over-year increase in pricing compared to today's 20% year-over-year increase?

James A. Varilek - *Olin Corporation - EVP and President of Chlor Alkali Vinyls & Services*

Yes, this is Jim Varilek. Yes, over the last month or so, with the success that's taken place in the caustic market, there's been more incremental players that come on with EDC into the market trying to get at the caustic. So that's caused us to lower a little bit our forecast year-over-year, but we're still showing a 20% increase that we're estimating for EDC prices '16 -- '17 over '16.

Aziza Gazieva - *Wells Fargo Securities, LLC, Research Division - Associate Analyst*

Okay, thanks. And within your current outlook, what are you guys assuming for the actual price realizations of the caustic price increases you guys have in place?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

What we said was that we were basing our outlook on what we've seen in terms of the July change in the price indices and our expectation of what we're going to see in August and September.

Operator

And the next questioner today is going to be Aleksi Yefremov with Nomura-Infinite.

Aleksi V. Yefremov - *Nomura Securities Co. Ltd., Research Division - VP*

Could you describe your exposure to EDC prices? Do you have exposure to spot or contract, other lags? And also, do you think your realized EDC pricing is more or less volatile than the spot market?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I would say, generally, the EDC realization by Olin is less volatile than the spot market, and I would say we try to keep a balanced mix between contracts and spot exposure.

Aleksi V. Yefremov - *Nomura Securities Co. Ltd., Research Division - VP*

You've talked about 8% increase sequentially in your realized caustic soda price in the second quarter. Does this reflect any of the actual second quarter index increase? Or are those still to come in the third quarter with a lag? And I guess related to that, do you expect to see higher or lower sequential increase in caustic soda in the third quarter compared to second?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I would say that what you saw in the second quarter does not reflect anything you saw in the second quarter price indices. So those are still to come. I would just say, sequentially, we believe we will see better pricing on caustic soda in the third quarter than the second and in the fourth quarter than the third.

Operator

And the next questioner today is going to be Jason Freuchtel with SunTrust.

Jason Alexander Freuchtel - *SunTrust Robinson Humphrey, Inc., Research Division - Associate*

Just following up on EDC. Is your view on EDC pricing impacted by the force majeure that Formosa declared on PVC resins? And if so, do you have a view on when that dynamic could stop weighing on EDC pricing? And I guess also, with the lower pricing, does that have an impact on how you look at the business long term?

James A. Varilek - *Olin Corporation - EVP and President of Chlor Alkali Vinyls & Services*

This is Jim Varilek. What I would say is that the short-term impact of the Formosa force majeure is not factored into EDC forecast or pricing. And other than that, the dynamics that I mentioned earlier are intact. And we are seeing the price declines in the third quarter. And we would expect to see volatility in EDC that we normally see. And oftentimes, it bounces back in the fourth quarter. And year-over-year, we're looking at that 20% increase.

Jason Alexander Freuchtel - *SunTrust Robinson Humphrey, Inc., Research Division - Associate*

Okay, great. And can you provide some clarity on your ethylene contract with Dow? Will you receive the benefit as soon as the plant has started or are there nuances like Dow needs to ship commercially before you receive the benefit? And I guess, with that, how do you interpret Dow's use of the word imminent? Does that mean sometime in the next month?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I'm not sure how Dow interprets the word imminent. I would say we just said we expect to receive the second tranche of ethylene sometime in the third quarter, and our full year outlook reflects that.

Jason Alexander Freuchtel - *SunTrust Robinson Humphrey, Inc., Research Division - Associate*

Okay. And then lastly, I think you've indicated in the past that the Winchester segment should be able to generate about $125 million in EBITDA. Do you still believe that in the long term, the fundamental dynamics of the Winchester business will be able to support $125 million EBITDA bogey?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

Yes, we do. I think what we -- I believe we've experienced the worst that we're going to experience in Winchester in the first two quarters of this year. And I think what you'll see is a run rate in the second half that would support $125 million a year of EBITDA.

Operator

And our next questioner today is Don Carson with Susquehanna.

Donald David Carson - *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

John, I just wanted to clarify what's in your guidance on costs. You've talked about higher pricing in Q3 and Q4. I think IHS has a $30 increase in the index in Q3 versus the $50 increase in Q2. Is that the magnitude that you have in your guidance? And does your guidance include a further increase in the index in Q4? Would that be upside to your guidance?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

The further increase in the upside in Q4 is upside to our guidance. Our guidance reflects the 30 that you discussed. IHS is showing I think 15, 10, and 5, and that's what we based our guidance on.

Donald David Carson - *Susquehanna Financial Group, LLLP, Research Division - Senior Analyst*

Okay. And then what success have you been having -- as contracts come up for renewal, have you been able to have much success in reducing the discounts off the contract price as well as the lag in terms of realizing those index price increases? And can you be relatively specific on how you see that unfolding?

James A. Varilek - *Olin Corporation - EVP and President of Chlor Alkali Vinyls & Services*

Don, this is Jim Varilek. We have had success with our contracts in a number of different ways, whether they be removal of discounts, lowering of discounts or just resetting the bar in certain parameters. So we do -- we are making progress as those -- as each contract comes up and we look specifically at areas to improve those contracts. And our contracts run in 2- to 5-year ranges, so we will continue to be able to upgrade those contracts as they come due over the next couple of years.

Operator

And our next questioner today is Arun Viswanathan with RBC Capital Markets.

Arun Shankar Viswanathan - *RBC Capital Markets, LLC, Research Division - Analyst*

I just had some more questions on the guidance. So in, I guess, prior calls, you had said that you were tracking at the higher end. Are you still tracking at that level? And if not, what would you attribute that to? Would it be weakness in Epoxy on the raw side or weaker volumes in Winchester or something else in Chlor Alkali?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I think the biggest difference between how we view our full year guidance today and where we viewed it 90 days ago when we last spoke was the impact of the unplanned outages in the second quarter, the extra $45 million to $50 million that we incurred to complete the planned outage and to remediate the unplanned outage.

Arun Shankar Viswanathan - *RBC Capital Markets, LLC, Research Division - Analyst*

Okay, that's helpful. And then similarly, on the caustic price, you had some issues with export pricing earlier in the year. Have those kind of cleared up? And do you expect further announcements later in Q3 that would help for Q4?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I think it was second quarter of last year that we had some problems with export prices. And I think if you look, export prices year-over-year are actually up more than they are in the domestic market, and we're at a point where they're very close to parity.

Arun Shankar Viswanathan - *RBC Capital Markets, LLC, Research Division - Analyst*

Great. And then just lastly, on Winchester. Overall, it does look like volumes have come in a little bit, and you'd have to have a pretty decent ramp to get to that 125 run rate for the full year. What gives you confidence in that assumption? And what are some good metrics that you're going to be tracking to make sure that's on par with your expectations?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

Well, as we said in the remarks, most of our big customers during the first half of the year were selling more than they were buying, and that's not sustainable long term. Second, we do -- this is the strongest seasonal period for the business, Q3. And yet, we've had years where 35% of -- 40% of our revenue occurs in Q3. And we've also said that we've got a better outlook for military business, and that -- really, the biggest impact on that is in the second half, not in the first half. And that impact will also carry us through most of next year in terms of the military. So I'd say there is really three or four factors that give us confidence there, Arun.

Arun Shankar Viswanathan - *RBC Capital Markets, LLC, Research Division - Analyst*

Okay, great, thanks. And if I may, just one more, quickly on the synergies. Any change to your outlook on how those are impacting your EBITDA and if you have any update on revenue synergies as well, that would be helpful.

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

There's no change in our outlook in synergies. The biggest revenue synergy that we talked about, the growth -- 15% year-over-year growth in the bleach business, that is really the largest revenue synergy that we have going on right now.

Operator

And the next questioner today is going to be Josh Spector with UBS.

Joshua David Spector - *UBS Investment Bank, Research Division - Equity Research Associate - Chemicals*

Just a question on caustic soda volumes for the second quarter. In Slide 16, you show volumes down year-over-year and quarter-over-quarter. But chlorine, you show as up quarter-over-quarter and flat year-over-year. Can you help explain the difference in dynamic? Is it the external versus internal sales? Or is there something else going on? Because I would imagine the maintenance turnaround impacted both.

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

The maintenance -- the chlorine business is primarily the merchant business, and the merchant business was -- is not -- was not really affected by the outages. Those outages were more around the internal and other products where the chlorine goes, such as VCM and epoxy. So the merchant chlorine business was generally unaffected. The unplanned outages did affect the amount of caustic soda we had available because we weren't running chlorine for the vinyls piece. We weren't running chlorine for the epoxy piece. And so that's sort of the mix. We have quite a bit -- as you know, just from our sensitivities, we have quite a bit more caustic soda to sell in any quarter than we do chlorine -- that we sell as chlorine.

Joshua David Spector - *UBS Investment Bank, Research Division - Equity Research Associate - Chemicals*

Okay, that makes sense, thanks. And just on Epoxy real quick. The volume growth that you noted, I believe you said about 5%, can you tell us whether that was more upstream or downstream products?

Pat D. Dawson - *Olin Corporation - EVP and President of Epoxy & International*

Yes, this is Pat Dawson. It was more centered around the upstream. And also, Europe continues to grow nicely as well on the midstream. So those were the two primary areas.

Operator

And the next questioner today is going to be Dmitry Silversteyn with Longbow Research.

Dmitry Silversteyn - *Longbow Research LLC - Senior Research Analyst*

I think you mentioned it, but I may have missed it. What was your chlorine price increase in the second quarter versus the first quarter?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

We said that the prices sequentially were similar, that the second quarter was up 5% year-over-year.

Dmitry Silversteyn - *Longbow Research LLC - Senior Research Analyst*

Okay, 5% year-over-year and flattish sequentially, got it. Secondly, just turning to your Epoxy segment. I mean, you've been raising pricing there pretty aggressively. Obviously, the EBIT line loss expanded in the second quarter, having to do with the late outage probably. How should we think about the profitability on that business in the second half of the year? You talked about a little bit easing on the raw material front. Hopefully, you'll get a little bit more traction. Should we be looking forward to a positive EBIT contribution from this business in the second half of the year?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

Yes, you should. And I would take you back to the comment we made, which is we believe that the combination of the price increases and the higher hydrocarbon costs in the third quarter will allow the business to return to the margins you saw in the third quarter of last year.

Dmitry Silversteyn - *Longbow Research LLC - Senior Research Analyst*

What about kind of the overall demand environment for Epoxy? Can you sustain these prices in -- when raw materials start rolling over, is there enough demand to cause a little bit of a snugness in the market? Or do you expect to give out this pricing pretty quickly as benzene and propylene come down?

Pat D. Dawson - *Olin Corporation - EVP and President of Epoxy & International*

Yes, again, this is Pat Dawson. I would tell you that in the month of June, we saw prices stable. We think the demand is starting to show some modest improvement in North America. You've got to remember last year, North America actually contracted mainly due to oil and gas, so we're starting to see improvements there. Europe continues to grow very nicely, and we think most of the bottom out in Asia Pacific has been seen and we're starting to see some improvements in demand there as well.

Dmitry Silversteyn - *Longbow Research LLC - Senior Research Analyst*

And then just final question, on the caustic volume decline in the second quarter year-over-year, I'm looking at about 5% according to my model. Am I in the ballpark?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

We haven't really commented on a specific amount, Dmitry.

Operator

And our next questioner today is Matthew Blair with Tudor, Pickering, Holt.

Matthew Robert Lovseth Blair - *Tudor, Pickering, Holt & Co. Securities, Inc., Research Division - Director, Chemicals and Refining Research*

I was hoping you could talk about your deleveraging outlook. I think your debt-to-EBITDA is currently just above 4. Your long-term target is in that 1.5 to 2 times range. Are you planning to reduce debt solely through free cash flow or asset sales or possible Winchester spin on the table here?

Todd A. Slater - *Olin Corporation - CFO and VP*

We would expect by the end of this year, with the improvement in EBITDA, to be in that 3.1 to 3.3 net debt-to-EBITDA range. And as we move into 2018 and beyond, we expect to use excess cash flow from the business to de-lever.

Matthew Robert Lovseth Blair - *Tudor, Pickering, Holt & Co. Securities, Inc., Research Division - Director, Chemicals and Refining Research*

Okay, great. And then on the Winchester margins coming in around 14%, can you split out, how much was due to raw material pressures and how much was due to pricing pressures here?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I would answer that with a third comment. The majority of it was due to reduced sales volumes and an unfavorable product mix.

Operator

And the next questioner today is going to be Stephen Byrne with Bank of America Merrill Lynch.

Ian Bennett - *Bank of America Merrill Lynch - Analyst*

This is Ian on for Steve. Would you use 2016 as a normal year for maintenance and turnaround spending? Or do you have sufficient history with these assets to forecast what kind of underlying economic rate of turnaround and maintenance costs are?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

Based on what we know right now, I would tell you that 2016 would be at the low end of what we would expect and 2017 would be at the high end of what we would expect. It will be lumpy, but I think those two probably bracket what we would expect to see.

Ian Bennett - *Bank of America Merrill Lynch - Analyst*

Okay. And then for the approximately half of your caustic that's produced that is turned into derivatives, how does the price of those derivatives compare to the change in price of caustic soda you mentioned earlier of 8% sequentially and 36% year-over-year?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I guess I'm confused by the question. Very little of our caustic soda is converted to anything. The majority of what we make is all sold. Some of it is sold to our pipeline customers. The rest of it is sold to the market. The question may be, how much of our chlorine that we produce which goes into derivatives? But maybe you can clarify for me what you mean.

Ian Bennett - *Bank of America Merrill Lynch - Analyst*

Yes. I was under the impression that some of the caustic is turned into other derivatives that are not sold explicitly to the market, but maybe I'm mistaken?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

The only place that we use significant amounts of caustic is in the manufacture of bleach, which is chlorine and caustic together. That's a relatively small percentage of our business. I would tell you, however, that bleach pricing does reflect the underlying market price of chlorine and caustic soda.

Operator

And the next questioner today is going to be Kevin McCarthy with Vertical Research Partners.

Kevin William McCarthy - *Vertical Research Partners, LLC - Partner*

Apologies if I missed it, but would you comment on the amount of chlorine price that you achieved versus your proposal in the third -- sorry, yes, I guess basically month of July, kind of entering the third quarter here, what's your view of chlorine?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

What we said was that the first and second quarter merchant chlorine prices were similar to each other and that we expected chlorine to improve sequentially in Q3 versus Q2 and then again in Q4 versus Q3.

Kevin William McCarthy - *Vertical Research Partners, LLC - Partner*

Okay, thank you for that. And then just coming back to the outages and following up on Ian's question. Would you care to hazard a preliminary guess as to the likely impact of your planned maintenance in 2018 versus the 209 million aggregate that you show on Slide four for 2017?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

We said that 2018 would be meaningfully lower than 2017.

Kevin William McCarthy - *Vertical Research Partners, LLC - Partner*

Okay. We'll stay tuned on that. And then I guess one small one to wrap up. You took about 4.4 million in acquisition-related costs in the quarter. What is the nature of those that are kind of still hanging around at this point? And when would you expect those to roll out of the financials?

Todd A. Slater - *Olin Corporation - CFO and VP*

Kevin, this is Todd. We had estimated at the beginning of the year that between restructuring and acquisition integration costs, that would be about $50 million. And I think we're still on track for that to be the expense for the full year.

Operator

And our next questioner is going to be a follow-up from Jason Freuchtel with SunTrust.

Jason Alexander Freuchtel - *SunTrust Robinson Humphrey, Inc., Research Division - Associate*

Thanks for taking my follow-up. This is more a strategic question. But do you believe producers only just spend more on -- or may just spend on maintenance cost more frequently for either planned or unplanned outages than they have in the past several years in a higher operating environment? And with that, do you expect younger assets, like your assets in Freeport, Texas, will be advantaged relative to other industry assets in a higher operating environment?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I would agree with your basic premise that high operating rates are going to lead to more frequent maintenance turnarounds. And I would just offer that not only do we have newer assets in Freeport, our plant in St. Gabriel is less than 10 years old, our plant in Charleston is less than 10 years old. So, I think across the Olin system, we have relatively young assets versus the industry.

Operator

And the next question is a follow-up from Stephen Byrne with Bank of America Merrill Lynch. Please go ahead.

Steve Byrne - *BofA Merrill Lynch, Research Division - Director of Equity Research*

Again thanks for letting me in the queue with a follow-up. Just on the outlook for the full year, $1 billion EBITDA, what do you expect the cadence of that to be for the 3Q and 4Q?

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

I think if you look at 2016, which is the only real market we have for the new business, the third and fourth quarters were very similar.

Operator

There look to be no further questions, so this will conclude the question-and-answer session. I would like to turn the conference back over to John Fischer for his closing remarks.

John E. Fischer - *Olin Corporation - Chairman, CEO and President*

Thank you all for joining us today, and we look forward to speaking with you about our third quarter in about 90 days. Thank you.

Operator

The call has now concluded. Thank you all for attending today's presentation. You may now disconnect your lines.