Trinseo Fourth Quarter 2022 Earnings Call

Company Participants

- Andy Myers, Director of Investor Relations
- Frank A. Bozich, President and Chief Executive Officer
- David Stasse, Executive Vice President and Chief Financial Officer

Other Participants

- Matthew Blair
- Frank Mitsch
- David Begleiter
- Mike Leithead
- Hassan Ahmed
- Daniel Rizzo
- Stefan Diaz
- Eric Petrie

Presentation

Operator introduction:
Good morning, ladies and gentlemen, and welcome to the Trinseo Fourth Quarter 2022 Financial Results Conference Call. We welcome the Trinseo management team, Frank Bozich, President and CEO; David Stasse, Executive Vice President and CFO; and Andy Myers, Director of Investor Relations. Today's conference call will include brief remarks by the management team followed by a question-and-answer session. The Company distributed its press release along with its presentation slides at close of market Wednesday, February 8. These documents are posted on the Company's Investor Relations website and furnished on the Form 8-K filed with Securities and Exchange Commission.

If anyone should require operator assistance during the call, please press *, then zero, on your telephone. I will now hand the call over to Andy Myers.

Andy Myers
Thank you, Abby, and good morning, everyone. (Operator Instructions) Our disclosure rules and cautionary note on forward-looking statements are noted on Slide 2.

During this presentation, we may make certain forward-looking statements, including issuing guidance and describing our future expectations. We must caution you that actual results could differ materially from what is discussed, described or implied in these statements. Factors that could cause actual results to differ include, but are not limited to, risk factors set forth in Item 1A of our annual report on Form 10-K or in our other filings made with the Securities and Exchange Commission. The Company undertakes no obligation to update or revise its forward-looking statements.

Today's presentation includes certain non-GAAP measurements. A reconciliation of these measurements to corresponding GAAP measures is provided in our earnings release and in the appendix of our investor presentation.

A replay of the conference call and transcript will be archived on the Company's Investor Relations website shortly following the conference call. The replay will be available until February 9, 2024. Now I would like to turn the call over to Frank Bozich.

Frank Bozich

Thanks Andy, and welcome everyone to our year-end 2022 call. I am proud of what we have accomplished over the course of 2022 while being faced with significant macroeconomic headwinds which are well documented at this point. Operating in this challenging environment did lead to earnings and cash generation that were below our expectations, especially following our record profitability in 2021, but we have focused our efforts throughout the past year on the initiatives that will improve our strategic position when demand recovers. These can be broken down into three categories: asset restructuring, organizational improvements and growth in specialty products and our sustainable technologies.

In the second half of 2022 we announced an asset restructuring plan to improve our competitive footprint. This included the closure of our styrene production plant in Boehlen, Germany and one of our polycarbonate production lines in Stade, Germany. Both closures are expected to result in lower costs as well as reduced exposure to cyclical commodity markets. The restructuring is expected to result in $60 million of annual profitability improvement versus the fourth quarter run rate, and essentially all of it should be realized in 2023.

In addition, we still plan to separate the Styrenics business as an integral step to further shift our product portfolio toward specialty materials. While the formal sales process remains paused, we have largely completed the separation work and we'll be well prepared to complete the process when the opportunity comes.

We improved our organizational structure through the creation of the Chief Commercial Officer, Chief Sustainability Officer and Chief Technology Officer roles. These three key positions will enhance the execution of our strategy, enabling us to better serve our customers, achieve our sustainability goals, and grow our product portfolio.

We continued our growth in specialty products and sustainability even in a challenging economic environment. We made significant progress on integrating the 2021 acquisitions of the PMMA business and Aristech Surfaces to unlock cost synergies and tap into additional revenue opportunities through new, specialty product offerings. For example, our North American volume and unit margin of specialty resins grew 2% and 12% year-over-year in 2022 despite a slowing market. In November we completed the ERP implementation for the Altuglas business, which resulted in lower costs by exiting the Arkema TSAs. We remain on schedule to capture the $60 million of annual run rate synergies by the end of 2024. These acquisitions have expanded our offerings of unique solutions to our customers, especially in material substitution applications. For example, replacing fiberglass with ABS to provide rigid backing for

PMMA sheets in bath and spa applications provides our customers with a high-performing product that's also more environmentally friendly.

We're also seeing strong results in the growth of products containing recycled materials, which are in very high demand from our customers. During 2022 the volume and variable margin of these products grew 63% and 69% respectively versus the prior year. While these products represented only 1% of sales volume, they delivered 3% of variable margin for the whole company, which confirms they have high growth potential and more market resiliency. Supporting this effort, we have created a strong IP pipeline, which has more than doubled from the 2020 level. This gives me confidence that we'll continue to grow our product offerings in both sustainable solutions and specialty materials.

The growth of products containing recycled materials is moving us closer to achieving one of our 2030 Sustainability Goals, which is that 40% of Trinseo products will be sustainably advantaged by 2030. We're making progress on our other goals as well, including reduced carbon emissions and achieving improved gender balance in our workforce. Perhaps most importantly, we delivered another excellent year of EH&S performance with 74% of our eligible sites receiving our Triple Zero Award – meaning the site achieved no injuries, spills or process safety incidents. Trinseo has been an industry leader in safety and responsible operations since its formation and I want to commend our employees and leaders for continuing to make safety and responsible site operations a priority.

Next, I'd like to briefly discuss our view of the economic environment during the fourth quarter. We observed many of the same macro headwinds that were prevalent during the third quarter including subdued demand stemming from geopolitical conflict and elevated energy costs in Europe, COVID-19 related impacts in China and rising interest rates, which especially curbed demand for building and construction applications. These lower demand levels and overall economic uncertainty prompted a continuation of significant de-stocking from our customers and earlier than normal year-end shutdowns.

Additionally, the low level of demand in China, coupled with high production costs in Europe, created a temporary arbitrage window for Asian-produced imports to make their way into Europe and North America. This created volume and margin pressure for some of our globally traded, less specialized products including ABS, polycarbonate, MMA and PMMA extruded sheets. While this situation existed in the second half of 2022, we don't view this as a structural change in trade flows and we expect this temporary headwind to fade, especially as demand improves in China and as costs continue to moderate in Europe.

Before I turn the call over to Dave, I'd like to provide more detail on the drivers of the recent performance in the Engineered Materials segment. The fourth quarter was adversely affected by several factors which impacted both volumes and margins. First, the quarter was impacted by $10 million due to losses on natural gas hedges that were put in place in the second half of 2022.

Next, customer destocking continued in the fourth quarter due to declining prices, inventory management, and extended year-end shutdowns, which resulted in an EBITDA impact of about $10 million. We anticipate that we will see the end of destocking early this year, likely during the first quarter.

In addition, underlying market weakness from economic uncertainty and high interest rates continued to impact demand, particularly in building & construction and consumer durables applications, and this had an EBITDA impact of about $15 million during the quarter.

I would also like to highlight the spike in MMA-related feedstock costs in Europe in the second half of 2022, and the window this created for lower cost Asian imports. Like most of the industry, we utilize the C3 route to MMA synthesis, but we are somewhat unique in the European market in that we neutralize spent sulfuric acid in our process with ammonia to produce ammonium sulfate which we sell into the fertilizer market. In almost all market conditions, this is a cost advantage as we realize the credit for the ammonium sulfate sales as an offset to MMA manufacturing costs. Two critical raw materials in this process are methane and ammonia and in the second half of 2022, methane and ammonia prices rose in dramatic fashion. Even with the significant increase in ammonium sulfate prices, we could not offset the net impact of the cost increases because the price of ammonium sulfate was capped by lower-cost imports from other regions and because of economic considerations for farmers. The high ammonia cost was driven by the extensive shutdowns in ammonia production in Europe which led our main supplier to declare force majeure. Conversely, a significant amount of MMA capacity in China utilizes the C4 production route. Low gasoline demand in China stemming from Covid shutdowns created an abundant supply of C4 which temporarily lowered MMA production costs in China. This, along with lower end market demand in Asia, created a temporary window for lower-cost MMA and standard-grade PMMA to be sold in Europe.

We do not believe these are long-term structural issues for us and we anticipate this situation will normalize with lower energy and ammonia prices in Europe along with more normal mobility and demand returning in China over the course of this year. In any event, we have other supply chain options to help alleviate this impact in the medium term if necessary. We estimate this temporary arbitrage impacted the fourth quarter results by about $10 million in Engineered Materials.

Obviously, we're not satisfied with the recent earnings in Engineered Materials, but we view the current headwinds as temporary and expect significant earnings improvement when energy prices normalize and demand returns. We've taken action where possible such as the restructuring of the PMMA sheet business in North America, and we are prepared to take additional steps as appropriate. I will also add that I'm encouraged that the margins for the more specialized products in the segment, such as specialty and modified PMMA resins and PC/ABS compounds, have been maintained in an environment with steeply rising costs.

And now I'd like to turn the call over to Dave who will talk through more of the financials.

David Stasse

Thanks, Frank. Our fourth quarter Adjusted EBITDA was below our previously announced guidance due to $19 million of negative net timing impacts caused by falling raw material prices as well as $15 million of unfavorable impacts from natural gas hedges.

I'd like to spend a minute explaining our philosophy related to the use of natural gas hedging to manage our cost risk, and how it has changed over the last nine months. Volumetrically, about 60% of the gas we purchase is in Europe. In 2022, this represented over 90% of our cash spent on natural gas. We formed a view in mid-2022 that record gas prices in Europe would have to

fall because of high levels of storage and declining industrial demand. As such, we hedged our natural gas only out a few months. We've since seen European natural gas prices fall over 80% and North American gas prices by over 60%, and we've been layering in 2023 and some 2024 hedges on the way down. Because we don't qualify for hedge accounting treatment for all of our hedges, we will have some mark to market volatility in the P&L going forward, but I wouldn't expect it to be the same magnitude as Q4.

During the quarter we recorded a non-cash $297 million goodwill impairment charge related to the PMMA and Aristech Surfaces acquisitions. The impairment charge resulted from our annual goodwill impairment analysis and was deemed necessary given the challenging macroeconomic environment, particularly for building & construction, as well as a prolonged drop in our market capitalization. We view these businesses as integral components of our evolution as a specialty materials provider and remain excited about the growth opportunities they will provide in the future.

Fourth quarter Free Cash Flow of negative $20 million was below our expectation caused mainly by lower earnings and the $34 million payment to the European Commission to settle the 2018 styrene purchasing investigation. An accrual for this was booked earlier in the year and, with this cash payment, we consider this matter closed. We ended the year with $717 million of available liquidity including $212 million of cash. As it relates to capital structure, our nearest term maturity is a $660 million term loan that matures in September 2024. The financing markets have improved considerably to start the year, and refinancing this loan is a priority for us.

Our strong liquidity position and our view that the bottom of this earnings cycle is behind us gives us great confidence in our ability to weather this economic downturn.

Now I'll turn the call back over to Frank who will talk about our expectations for 2023 and the first quarter.

Frank Bozich

Thanks, Dave. Looking back at 2022, it was a year of two halves with second half earnings substantially lower than the first half. This decrease was essentially from lower demand which led to both reduced sales volume as well as margins. While raw material and energy prices were elevated in the first half of last year, these costs were passed through in our pricing. However, higher interest rates and energy prices, as well as the COVID lockdown in China, eroded consumer spending in all three regions, resulting in lower sales volume and margins. So we view an increase in demand as the number one catalyst for earnings improvement.

For the full-year 2023 we are guiding net income of $3 to $33 million and Adjusted EBITDA of $375 to $425 million.

We expect demand levels to improve as the year progresses with first quarter sales volume slightly higher than the fourth quarter from seasonality; we view this as trough-level demand. For the remainder of the year we see volumes about 10% higher than this trough level which equates to about $30 million of EBITDA per quarter.

To give you some added perspective, a 10% volume increase would represent a recovery of about half of the volume drop from the first half to the second half of 2022. This 10% increase should come from a few areas.

First, the end of the Asian arbitrage window which we see closing in February based on the steep drop in natural gas and ammonia prices in Europe.

Second, and also a contributing factor to the end of this arbitrage window, we're forecasting flat volume growth in Asia in the first quarter, and a 10% increase from this level for the remainder of the year. We view this as a very modest assumption in the context of the depressed demand levels we've seen in China over the last three quarters. This is supported by feedback we've received by key customers in the appliance market.

Third, the end of destocking, which we believe will occur in the first quarter, but many customers will likely keep inventory levels lean until signs of real demand recovery emerge. You can see in the appendix of our earnings deck, that prior de-stocking cycles for ABS and polystyrene products have taken about 2 quarters to play out and it's typically followed by a "snap-back" driven by re-stocking. Our outlook for 2023 does not reflect that typical sharp rise in orders from re-stocking.

Finally, modest auto growth. We expect the global automotive market to grow by a low-single-digit percentage, but we expect to grow at a higher rate due to our mix of applications as well as geographic exposure to regions where more growth is anticipated such as North America, where days demand of inventory is still meaningfully lower than historical averages.

We see this set of 2023 forecast assumptions as independent from an economic recovery or a restocking cycle, both of which would represent an upside. Clearly an increase in sales volume will be a key factor for higher earnings, but we're anticipating additional benefits from the footprint actions that we've implemented which are expected to increase annual Adjusted EBITDA by approximately $60 million versus the fourth quarter run rate.

Cash generation is anticipated to improve in 2023 as well with expected cash from operations of $100 million and breakeven Free Cash Flow. This implies capital spending of $100 million which is about $50 million lower than last year. Our capex guidance includes all necessary plant maintenance as well as the continuation of our growth programs, which have yielded very positive results including expanded offerings of specialty products, sustainable solutions and unique offerings in material substitution. We have decided to postpone the second phase of our ERP implementation, which largely involved migrating our legacy businesses to S/4 Hana.

Our cash guidance also includes a $40 million outlay for the asset restructuring actions as well as a working capital use given the expected higher demand at the end of 2023.

There's no question that the business conditions in the second half of 2022 were some of the most challenging we've faced as a company. But we believe that we've weathered the worst of this downturn and, based on the actions we've taken along with the destocking cycle winding down, we are poised to grow earnings in 2023. The order book we have so far in Q1 is encouraging we're confident in our ability to generate and manage cash even in a period of prolonged weaker demand and we'll benefit as we continue evolving into a company offering more specialty and sustainable products.

And now we're happy to take your questions.

Questions and Answers

Operator
(Operator Instructions.) Our first question comes from the line of Matthew Blair with TPH. Your line is open.

Q – Matthew Blair
Hey, good morning, Frank and Dave, I thought the commentary on the recycled products was pretty interesting. I think you said it was 1% of your volumes but 3% of your margins. Could you talk about how you price these recycled products? Is it like a fixed contract -- like a fixed spread on your end?

And then, as we think about this price premium that you're getting, how much of that comes from regulatory factors and how much of that is just like a voluntary premium that these brands pay to improve their ESG scores?

A – Frank Bozich
Thanks for the question. Great question. Most of the premium we're getting is basically being driven by self-imposed goals that most of our end customers are setting on themselves related to CO2 intensity reduction. So, in the current environment relative to the availability of these materials, there's an unlimited demand. So, we see this as a big opportunity for us and we are trying to accelerate the availability of the key feedstocks that will allow us to supply more into the market every quarter.

So, there are some regulatory drivers that will come. There are some various packaging taxes that will be imposed in Europe, and I think that's reflected in the pricing that we're getting. But again, most of it is self-imposed and it's a negotiated price rather than a formulaic price that we have with the customers.

Q – Matthew Blair
Sounds good. And then, Frank, you called out weakness in Q4 in areas like construction, durables, and electronics. Could you talk about how each of those markets are faring today versus the Q4 level?

A – Frank Bozich
Yeah, so what we're seeing is the level in Q1 that would be consistent with that level but obviously within the normal Q1 seasonality. So far, we aren't seeing a significant demand increase in those underlying markets other than seasonality.

Operator
We'll take our next question from Frank Mitsch with Fermium Research. Your line is open.

Q – Frank Mitsch
Thank you. Given your headquarters location, I feel like I need to say, “Go Eagles”. So, we'll see on Sunday. Hey, David, I have a random question for you, that's in the footnotes at the bottom of slide 16, talking about your 2026 revolver, suggesting that it's going to end at $102 million at the end of the first quarter. Can you talk a little bit about that and what are you meaning to imply there?

A – David Stasse
Well, yeah. So, the revolver, it has and always has had a covenant attached to it that measures a certain leverage ratio and if that leverage ratio goes above a certain threshold, which we’re not at the end of the year, but likely will be at the end of the first quarter, the availability under the revolver shrinks to 30% of the revolver. So, it's $375 million revolver, we have a small amount of letters of credit drawn against that, which is just normal business. So all of that is available to us today. At the end of the first quarter, I expect on an LTM basis, our leverage ratio will go beyond what's stipulated in the covenants at which point only 30% or $102 million we’ll have available to us under the revolver, okay? So, that's how that works. That's the mechanics of that. Given the guidance that we laid out here today and what we expect to happen in the business, we expect that leverage ratio to go below the threshold and have the full availability under the revolver by the end of the year.

But look, to be clear, Frank, I don't see that affecting us operationally. As we said, we ended the year with $212 million of cash. We have $150 million effectively an ABL, an asset-backed receivables line available to us. There are no covenants attached to that and that's a committed facility. And then beyond that, we would still have $102 million available under the revolver. So, we highlighted that and put that in here, because we think it's instructive for investors, but I don't foresee the need for us to need that liquidity

Q – Frank Mitsch
That’s an excellent synopsis. Sincerely appreciate that. And Frank, coming back to the Engineered Materials business, some of the expectation is to see an improvement post Chinese New Year. I’m curious, you did mention that your order book is somewhat encouraging. Can you add a little more color with respect to Engineered Materials business and what you’re seeing there and expectations there?

A – Frank Bozich
Sure. I think that clearly one of the big benefits that we're going to have is, not having the hedge headwind that we had in Q4 in Q1. So, I would expect that to be an improvement over where we were in the quarter. We’ll have some normal seasonality, but as it relates to that arbitrage window and sort of the destocking, I think there's going to be overhang through Q1, is what we would anticipate and then over the course of 2023, we'll get back to levels like we were in the first half of 2022, which was about a $35 million per quarter run rate in the business.

Now, for us to get back to where we should be with the business, we need to see a structural market improvement in automotive and in building and construction, particularly around the Asian imports that is-- sales of building and construction products in Asia that used to be

exported into Europe. So, we see that as a longer-term improvement, but our expectation is, we get back to the first half 2022 levels during in the second half of 2023.

Operator
We will take our next question from David Begleiter with Deutsche Bank. Your line is open.

Q – David Begleiter
Thank you. Good morning, Frank and Dave. Frank, just on the European natural gas prices, given the reduction we've seen, any change in your thought process on European asset restructuring?

A – Frank Bozich
Well, first of all, no. I don't believe that any of the actions that we've taken, I would have any reason to second guess those given the reduction. I think that's consistent both strategically and in the near-term financials. And in fact, we're going to see a benefit from both of those restructuring plans early in 2023.

I'll just give you this color. Our Boehlen styrene monomer plant only contributed a positive EBITDA contribution in two quarters during the last three years. So, again, this is the right decision long term, and we'll see the near-term benefit from it. Obviously, with improvement, we'll see our other assets be more competitive versus -- like I described in the script - versus this temporary arbitrage window, which we see largely closing at this point.

Q – David Begleiter
Very helpful. And do you have a view on the global styrene cycle next couple of years in terms of new capacity and margins and how that might trend?

A – David Stasse
Yeah, hi Dave. This is David. I'll take that. I would say, first of all, I'll start off with AmSty. AmSty continues to be very steady performer despite the kind of trough level conditions. So, it's low-cost Gulf Coast producer, so I see them as being relatively immune. We would see the building cycle as say, '23 as probably the trough, maybe '23, '24 at the latest, the ending of the trough or ending of the capacity additions, probably 2023. So mid-single-digit additions coming online globally in 2023 and that's all in China obviously, and then, starting to recover from there. So, I would say probably some recovery in global styrene margins and operating rates in '24, '25.

Now, the thing I would say is with the closure of Boehlen, we've substantially reduced our exposure to styrene. We're now just producing at the one site in Terneuzen in the Netherlands that is just supplying our internal downstream needs within Europe. So, closing that site, I think, kind of reduces the profit exposure to the styrene cycle.

Operator
We will take our next question from Mike Leithead from Barclays. Your line is open.

Q – Mike Leithead
Great, thanks. Good morning, guys. First question, can you just give a little more color about your expectations for first quarter EBITDA growth sequentially? And then second, if I heard correctly, it sounds like you're really not assuming much, if at all, economic recovery in your full-year guidance. So, it just optically seems like a pretty steep ramp from the back half of 2022. So, can you help square that for us?

A – Frank Bozich
Yeah, I think the best way to bridge Q4 to Q1 is basically, Q4 excluding raw material timing was about $25 million of EBITDA. It also included $15 million of hedge headwind and then additionally we'll benefit from about $15 million from the run rate savings from the restructuring activities that we have. And then we'll have a normal benefit from some of the year-end effect, or seasonality, plus lower costs in Europe. And we have a high degree of confidence in those factors adding to the Q4 run rate in Q1.

And then, as we described, we think there's a 10% volume increase from this level from a number of factors: Asia recovery, also the end of this arbitrage pressure that we saw in Europe and North America. And so, a 10% recovery in volume from those levels adds $30 million per quarter of Adjusted EBITDA. So, we don't see that as a very aggressive assumption. It really contemplates not a lot of underlying improvement beyond that. So, there is upside if we see that.

Q – Mike Leithead
Great. Thank you for the clarity. And then second, I just wanted to ask briefly on the Styrenics separation. I mean, Dave just talked about a pretty choppy styrene outlook until 2024, 2025 and obviously a lot has changed since you started the sale process a year and a half ago. So, can you maybe just talk about how your approach is at all going to change? Is there a different kind of suitable valuation or structure for separation? Just, again, broadly how you're approaching it today versus maybe when we started this off?

A – Frank Bozich
Well, I think, one, we've improved the business with the actions that we've taken as Dave outlined with Boehlen. I think also that as we've gone through this cycle, it's demonstrated the resilience of this business -- our polystyrene business. So, I think that those are all very, very helpful. And the other thing I would point out is this year, we're taking the first steps to establish our own recycled polystyrene assets in Europe with the project that frankly we see as being the best-in-class in the industry. So, I think those things will position the asset to be more attractive than it was when we initially marketed it. And when the capital markets improve and we see -- coupled with those improvements in the business, we'll make a decision on when to restart that process, but I guess the bottom line is, I see it as a more attractive and a better positioned asset to sell when the capital markets improve based on those actions.

Operator
And we will take our next question from Laurence Alexander with Jefferies. Your line is open.

Q – Daniel Rizzo
Hi, it's Dan Rizzo on for Laurence. Thanks for taking my question. I just have one. I was just wondering if the macroenvironment, particularly in North America, were to deteriorate significantly, do you still see a bridge where you can hit the low end of your 2023 outlook?

A – David Stasse
Yeah, hi, it's Dave. I'll answer that. The answer is yes. We have a pretty small footprint in North America. In fact, large [portion of that] footprint is of our JV, which is Americas Styrenics, which as I mentioned earlier, if you look historically is quite a stable EBITDA generator. So, beyond that, our footprint in North America is actually quite small. So, our exposure to North America, I'd say, is -- we've got two latex plants, and an ABS and compounding business that primarily serves automotive in North America, but those are relatively small.

So, I think the answer is yes. We do see still a path to hitting the low end of the guidance in that scenario. I think in terms of earnings exposure, I think we have far more exposure, both direct and indirect to recovery in China than we do to what happens in North America, not only because of demand in China and greater Asia, but also because of the over-wash that currently exists from stuff produced in Asia not getting soaked up in China. So, that's how I would answer that question.

Operator
We will take our next question from Angel Castillo with Morgan Stanley. Your line is open.

Q – Stefan Diaz
Hello, good morning. This is actually Stefan Diaz sitting in for Angel. So, I guess quick question here. You postponed your legacy ERP upgrade in 2023. Is this something that you expect would come back in 2024 or how should we think maybe generally regarding Capex or general investments?

A – Frank Bozich
Well, yeah, frankly we don't have to do this conversion. We're under no time pressure to do that conversion in 2024. And so, as conditions improve and we fully fund our other priorities, we'll make a decision on that. Obviously, we want to do it and there's operational benefits and cost savings from doing that implementation. But right now, that significant spend is not a priority in this environment. I wouldn't put us on the clock for any specific timing to do it. We're under no pressure to.

Q – Stefan Diaz
Great, thanks for the color. And then, in your EM segment, could you give a little bit of color on where your operating rates are and where do you see them progressing throughout 2023?

A – Frank Bozich
So, that's a great question. So, I would say for us in the low 70% operating rates is where our PMMA assets are running. The asset utilization on MMA is quite different by region. And clearly in Europe during the second half of last year, there was significant capacity that was idled. So, operating rates in Europe have been extremely low in the second half of last year and volumes moved from, as we pointed out, from Asia into the region. So, I would say, we would expect some of those assets to restart in 2023. But some of them are marginal assets on the cost curve anyway and it's possible they don't restart at all. So, I guess that's how I would characterize it.

Operator
We will take our next question from Hassan Ahmed with Alembic Global Investors. Your line is open.

Q – Hassan Ahmed
Good morning, Frank and Dave, I just wanted to revisit a couple of the questions that were asked earlier on the full-year guidance, $375 to $425 million in EBITDA. I mean, from the sounds of it, it seems you guys have been pretty conservative with the 10% volume gains, it seems, you're factoring into this guidance. You had some interesting charts in the presentation, which looked at where volumes are right now, what a snapback could look like. So now looking at those historic trends, if things do actually snap back and if the restocking is actually fairly rapid, what could those volumes look like? So that's one part of it.

And again, going back to the sort of full-year guidance also want to get a sense of what your nat gas prices you're factoring in as well?

A – David Stasse
Yeah, I'll take the last question first. Generally, when we do the forecast, we forecast based on what the current forward curve for natural gas is. In Europe, we're kind of in the high 50s or 60 right now. So that's what's baked into the guidance that we're giving right now.

A – Frank Bozich
So, I guess if you go into the first part of your question, if we saw a recovery back to the first half '22 levels, that would be an additional $30 million of EBITDA per quarter incremental to what we've already guided. Now, I'll remind you, in the first half of 2022, there was also some volume pressure in the underlying markets because of the chip shortage and chip constraints in automotive, as well as some pressure on China -- Chinese production that was essentially sales that would go into Europe. So again, I think, we would expect that a real snapback would get us back to the first half 2022 levels, but there's still market improvement, well above that that's possible if we see markets normalize completely.

Q – Hassan Ahmed

Understood. And sort of moving gears a bit, look, it seems like 2023 is still sort of a trough year or coming out of a trough. And then, we go into 2024 and 2025 and you guys have obviously some chunky debt maturities. So, I'm just trying to think through how you guys are thinking about share buybacks. I mean, I would imagine they are off the table for a while?

A – Frank Bozich
Yeah, that's not a priority in this environment right now.

Operator
And we will take our next question from Eric Petrie with Citi. Your line is open.

Q – Eric Petrie
Hey, good morning, Frank and Dave. How much of Engineered Materials is more commoditized – the PMMA sheet versus resins and compounds?

A – Frank Bozich
So, if you look at the volume mix, about slightly over 50% of the volume that we've historically had in the business is formulated specialty materials. And as I mentioned on the call, the margins and volume of those materials actually held up quite well. Then, you have less formulated or non-formulated materials or more standard-grade materials like standard grade resins or the PMMA sheet business and that's where we saw most of the volume pressure when the prices between the regions dislocated so dramatically in the second half. So, I would say, 50% to 60% is formulated and compounded in specialty applications and 40% of it is more standard-grade materials.

Q – Eric Petrie
Okay, helpful. And then, I think the prior rule of thumb for your Europe styrene assets were a $50 a ton styrene monomer change equals $35 million of earnings, but it sounds like Terneuzen is a little more profitable. So how does that change and then how much styrene monomer are you going to be buying with the closure of Boehlen?

A – Frank Bozich
So, let me take the second half of that question. So, we are somewhere about a third of our purchases will be merchant market purchases. Now with the closure of Boehlen and then with Terneuzen operating we can make the other two thirds of our needs.

A – David Stasse
Yeah, I'll take, Eric, the second half of that question. I think the rule of thumb, you're right, the old rule of thumb was a $50 change in margin would be about $35 million. That is now about $20 million.