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Dow Inc.

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Jeff Zekauskas: Hi, good morning. I'm Jeff Zekauskas. I analyze chemicals for J.P. Morgan. This morning, it's my pleasure to welcome Dow Inc. Representing Dow is Howard Ungerleider who is the Chief Financial Officer of Dow. He's been the Chief Financial Officer of a number of Dow entities.

Dow Chemical, DowDuPont, and now Dow Inc., and I think he's also the president. In Howard's history, he ran the polymer businesses of Dow, some of their electronic materials businesses, and even did a small stint in investor relations back in the day. The form of our presentation is, Howard will speak to a slide or two, and then we'll do a fireside chat. Howard?

Howard Ungerleider: Thank you, Jeff. I have to say, thanks for having us. Somewhere, my mother is smiling with that nice introduction. That was a very warm introduction on behalf of my mother.

[laughter]

Howard: She appreciates that, so thank you. It really is great to be here in person. Frankly, it's been too long since we've done this face-to-face.

Look, before we jump into the fireside chat, I just like to provide a little bit of an update on our outlook and, really, how our differentiated portfolio will enable earnings, growth, and cash flow resiliency through the economic cycle, and, I think, importantly, positions us to deliver mid-cycle earnings.

I'm sure you'll want to unpack that in the fireside chat, but I think it's also important to note that the mid-cycle earnings will be above the pre-pandemic levels, and I think that's a really important point. Now, on our last earnings call, we outlined our expectations for continued global demand strength, and I would say economic activity through February has continued to be supportive.

Just a few stats for you, US retail sales for December through February rose 16 percent year-

over-year. US manufacturing PMI rose above 57 in February with increases in new orders driving growth.

Eurozone economic activity, I'm sure we're going to talk about what's going on in Europe right now, but Eurozone economic activity actually rose at the fastest pace in five months in February with rising business and consumer optimism, and industrial production in China is beginning to ramp following the Lunar New Year.

These trends have translated into continued demand strength across our end markets, and I would say our order books for packaging remain strong, including what we see in the export market. Construction demand across the northern hemisphere is increasing and really resulting in tight supply, or I would say, continuation of tight supply for durable goods and industrial applications.

The coatings value chain continues to meet the current demand growth that we're seeing, but also to prepare for the seasonal uptick in architectural demand as the weather turns in the northern hemisphere.

As a result of that healthy demand environment, we today see upside of approximately $200 million of EBITDA versus the current first call consensus for Q1. Going forward, we also see support for demand growth as well. A few stats as the year progresses, consumer spending in the US is forecasted to be 25 percent higher than pre-pandemic levels.

Investments in infrastructure are increasing with accelerated adoption for 5G, for EVs, and green or zero-emission buildings. Light vehicle production is expected to increase -- pick your favorite third-party consultant, Jeff -- but in the range of, call it, 8 or 10 percent this year with EV sales up north of 50 percent.

I would say although we see an overall positive outlook, like all of you, we are continuing to monitor I would say geopolitical volatility, inflation in consumer and industrial markets, including hydrocarbons, COVID, as well as the pace of easing logistic constraints.

Now, from a geopolitical point of view as the invasion in Ukraine evolves, we have focused and prioritized the safety of our colleagues above everything else. We are providing evacuation support, financial assistance, and shelter to help our people and their families.

Dow's exposure to Ukraine and Russia combined is very limited. Represents less than one and a

half percent of our annual sales. When you look on the bottom line, it's even a much smaller percentage on the bottom line.

We previously had suspended all feedstock and energy orders from Russia prior to any sanctions or military action. We have now reduced significantly our operations in Russia, only supplying limited essential goods.

As we think about the impacts on the world, while expanding oil to gas spreads will result in higher global chemical prices and will benefit producers in North America, Argentina, and the Middle East -- where somebody like Dow has a vast majority of our production -- those in Asia and Europe are certainly going to experience and are experiencing higher input costs and that's really hitting margins hard.

From a Dow's perspective, we will continue to do what we have done, which is leverage our feedstock flexibility region by region, furnace by furnace, to help mitigate the rising raw material and energy costs.

For example, and Jeff, I know you know this, but Dow has two to three times more propane flexibility than our European peers, with approximately two-thirds of our regional production in Europe based on LPG. Our operational and our financial playbook will once again help us remain agile as we continue to watch for any potential additional impacts on the broader economy.

With that said, and against this backdrop, we continue to be uniquely positioned as Dow to deliver long-term value for our shareholders. I'll start with our differentiated portfolio.

It benefits from our exposure to attractive end markets. If you think of our total addressable market as an enterprise is expanding to more than $800 billion dollars between now and 2025 and it will continue to grow faster than GDP.

Our innovative product and technology pipeline and our customer collaboration enables us to capitalize on the sustainable market trends. Importantly, our industrial intermediates and infrastructure and our performance materials and coating segments broadens Dow's reach beyond packaging in a fast-growing market verticals like infrastructure, home and personal care, and mobility.

That's going to continue to drive both earnings and cash flow growth. Then together with our decarbonize and grow investments, we're adding more than three billion dollars of underlying EBITDA over the next several years, while enabling the transition to a more sustainable and more

circular world.

I would just point to a few proof points. The successful startup of our cracker expansion in Fort Saskatchewan late last year, plus our FCDh, our project in Louisiana, and our alkoxylation expansions coming on later this year, all serve as proof points.

Our clear path to deliver earnings growth over the economic cycle together with our best-in-class operational performance will continue to drive cash flow growth, which we will continue to deploy in a disciplined and a balanced way. I'm sure you're going to have some questions on capital allocation.

That will enable us to execute our growth strategy while targeting more than a 13 percent return on capital across the economic cycle, while at the same time providing attractive shareholder remuneration.

Jeff, look, 2021 was clearly a record year for Dow. As we move through 2022, I am confident as the leadership team is confident that these mid-cycle dynamics will allow us to do a few things.

One, demonstrate, once again, the resilience of our portfolio, deliver earnings above pre-pandemic levels, generate, once again, strong cash flows with a continued focus on working capital efficiency, and create long-term and sustainable value for our owners, our customers, and our team over the long run. With that, Jeff, I'll hand it back to you to get into the fireside chat.

Jeff: Thank you for that spirited presentation. Dow earned 200 million more than the consensus thought. You've got three segments, packaging, industrial intermediates, performance materials. Where did the 200 come from? If you had to divide it up over the three businesses in terms of what businesses outperformed either the consensus expectation, your expectation, where was...?

Howard: We haven't earned it yet...

[crosstalk]

Howard: but this is our estimate for Q1, so we still have some work to do. Anybody on the Dow team listening, get back to work and keep delivering those results. The 200 million increase that we see relative to where first call consensus is today, it's about two-thirds of that goes into silicones. It'll be in performance materials and coating segments.

As I said in the prepared remarks, Jeff, we're seeing strong demand, inclusive of March, across the entire enterprise, but two-thirds of that 200 is in silicones. The balance, the other third, is in P&SP. The report that you published a few days ago was spot on relative to some of the margin compression that we're going to see in the near term in the hydrocarbon-related segments.

What we're seeing though in P&SP, our packaging and specialty plastics, is just continued demand strength. Then that feedstock, or that raw material, our hydrocarbon push, together with inflation is also in addition to the demand strength that we're seeing. We're also seeing prices that are continuing to move up because of that cost pressure.

Jeff: Those are very large increases in your silicones and siloxanes business. Is there something unusual that's going on there that's delivering, I don't know, in excess of 120 million in extra EBITDA?

Howard: I would say that silicon metal prices, because of the inflation, and silicon metal, which is the feedstock, which we have a significant amount of back integration either directly or through some of our joint ventures, that continues to provide strength to be able to drive price higher.

What we're starting to see in China with the new COVID variant is the rolling shutdowns are crimping supply. There's also the logistics issues of silicon metal being able to get out of China into Europe is also allowing price to be up in Europe.

Also, I would say fundamentally, the biggest issue is we're seeing good fundamental solid underlying demand in mobility, in infrastructure, in packaging. We're a leader, from a silicone perspective, in all of those segments around the world.

Jeff: It sounds like those are the kinds of developments or margin developments that are at least lasting for the year. That is, if you're outperforming already in the first quarter, and given that the supply demand balance is tighter, you must be more optimistic about that business in the course of the year.

Howard: Look, I will leave that to the experts like you to decide what's going to happen for the rest of the year. I would say, look, if you look at the first quarter, that puts our first quarter at a 2.9 plus or minus billion EBITDA run-rate and the Street estimate is in the 10 billion for the year.

If we can keep that going, obviously there'll be demand strength, or there'll be higher earnings through the year. The things we all have to watch for is, how are the geopolitical conflict, Russia,

Ukraine, plus the COVID issue that we're starting to see in China? Then, overall inflation and what that's going to do to demand growth.

At this point, we see strength across the board, and it continues to be the case in the month of March with the order book. In fact, our orders are up double digit in March versus February, month-to-date, so on an apples-to-apples basis. You can see that there is good demand strength around the world.

Jeff: When you look at your volumes in China, what have you seen since the end of the Chinese New Year? At our conference, we've had very conflicting accounts of what's going on in China, where some companies were quite conservative about it.

Howard: I would say it's been lower than a typical ramp from Lunar New Year. Usually, the ramp starts earlier. This year, it's a little bit slower. I do think there's zero COVID policy in the fact that they are going location by location and forcing assets either down for a couple of days or as much as five to seven days is probably slowing that.

At this point, we see China GDP this year in the five to six percent range. It is ramping. The ramp started a little bit slower out of the gate after Lunar New Year.

Jeff: If I could go back to silicones and siloxanes for a moment, what you said was that maybe two-thirds of the 200 million outperformance came from that. You also said that the dynamics in the petrochemical markets were tough.

The outperformance of that business is much larger than that, as it had to offset whatever compression you were feeling in your other operations. Can you quantify the quarterly change in what happened in silicones and siloxanes?

Howard: It's a little bit hard to break it out, because remember, in the fourth quarter, we had the turnaround in Zhangjiagang.

Certainly, when you look at the Q1 print, if we deliver or when we deliver the numbers that we talked about today, you're going to see a larger number, but you have to take into account the turnaround that was hitting the fourth quarter to the tune of about $100 million. That was a pretty big turnaround for us.

You're right. Look, silicones is one of the underappreciated parts of the Dow portfolio. It is

fundamentally not hydrocarbon-based. It goes into a significant number of applications in a very diversified way.

When you think about the trend to sustainable buildings, green buildings, you think about the trend to EVs, there is three to four times more silicone in an EV vehicle than in an internal combustion vehicle because of the need for additional lightweighting, the additional consumer electronics, and everything with the semiconductors that are in the IT capability that's in those vehicles.

Then, the battery technology. It's a significant demand growth, and we're seeing that. We're seeing it in mobility, we're seeing it in infrastructure. We're seeing that in home care as well.

Jeff: Howard, what I want to do in our chat is I want to bounce around from topic to topic.

Howard: Let's bounce, Jeff. [laughs]

Jeff: [inaudible] . What strikes me about historical petrochemical companies, whether it's Dow, or Lyondell, or even Westlake is the trading multiples that they're given in the public markets are surprisingly low.

That is, these are all companies that generate free cash flow generation on a consistent basis between maybe 10, 15 percent of their share price, but they're not rewarded.

When you think about how Dow will create shareholder value over a longer period of time, is the object of the game to try to...Of course, you want to grow EBITDA, but do you want to try to raise the multiple by having higher-quality businesses, or do you want to develop businesses, and then separate them out so that the public markets can put the appropriate multiple on it?

How do you envision working with that multiple, or is the best thing to leave the multiple alone and just repurchase shares and create value that way? Of the three options, how do you think about that?

Howard: I would say, look, probably, Jeff, you've been doing this a long time. I'm sure every CEO and CFO you've ever spoken with believes their multiple is too low, regardless of what sector.

Jeff: That's true.

Howard: That's probably true. The way I think about it is look, we are going to be disciplined and balanced in our capital allocation priorities.

We are going to continue to, as we outlined at our investor day in October, decarbonize and grow the company, while, at the same time, being focused on delivering that three billion dollars of increased earnings from an EBITDA basis over the economic cycle.

If you think about it, driving earnings growth and cash flow growth over the economic cycle. Improve the return on capital. I would say look, we've done a good job in the last several years on all three of those. The long-term metric that we haven't done as well on is return on capital.

I'm probably the fifth CFO of some version of Dow that's had a target of a 13 percent return on capital, to be fair. By God, we're going to do it this time. We're on a good trajectory, but it will take some more time to prove to you and to the market that we will be able to deliver that.

Grow earnings over the cycle, grow cash flow, improve our return on capital, and then give two-thirds of that back to our owners in the form of shareholder remuneration, primarily dividends, but also stock buybacks.

To that point, I know you and I haven't spoken since the fourth quarter earnings call, but on the call, you asked me some pointed questions on stock buyback. You were fishing around for, "Look, the cash flow seems like it's..."

Jeff: I was just puzzled. [laughs]

Howard: A Jeff Z Puzzle, which I respect greatly. Look, in addition to making the announcement on the 200 million increase in EBITDA, I will tell you that we have already covered dilution this year with our purchases in the first quarter. We purchased $600 million of stock in Q1, and then we'll see how the rest of the year goes.

We're already through spin. We're at now 74 percent of our net income has gone back to shareholders in the form of dividends and stock buyback. Our goal, as you know, our long-term goal is at least 65 percent of that. Then, we'll use the balancing of the 35 percent to decarbonize and grow the enterprise.

Jeff: Over a longer period of time, Dow plainly has a focus in Western Canada for its new capital

projects, which is a logical place to invest in, has very, very low feedstock costs. You can make blue polymers. What we've learned from Eastman, and they're doing their presentation, is the consumer products companies want a different makeup.

Does it make sense to create another Dow entity? In other words, to have Dow Blue Polymers located in Western Canada, where you get blue polyethylene. It would have maybe a little bit of a different price point. It'll be more focused.

Maybe it's one of the ways that you can lift your multiple over time. Or, is it turns out that it's better for the whole thing to remain under one big umbrella.

Howard: I would say this, that look, one of the values of the new Dow is to always consider whether or not we're the best owner of the portfolio. We worked very hard over a series of transactions over more than a decade, and you've been with us through all of them.

We believe today, we're the right best natural owner of our entire portfolio, but we challenge ourselves with that every year. That's what led a couple of years ago to do the marine divestiture and to do the rail divestiture. We're looking today. We continue to look more at our infrastructure assets, the assets that are non-product-producing.

To challenge ourselves whether we're the best owner, or is there somebody else out there that would value those assets more than us? Relative to our product-producing assets, I don't see that as a pathway for us today. Always avoid the use of the word never, so I'm not going to say never, but as I see it today, that is the destination of our company.

We are all extremely excited about that decarbonize and grow pathway. You look at our Texas-9 investment that we made. A few stats on that project, project to date that is north of 15 percent return on capital project. We built it 12 months faster than the average of the last wave of production.

We built it at a 15 percent better capital efficiency. It is 60 percent lower carbon intensity and 65 percent lower cost. We are taking that as our baseline, and then we're putting that in a bigger decarbonized way up in Alberta with our decarbonize and grow projects.

I will be disappointed, frankly, if that project is not at least a 15 percent return on capital. It will cost more than the Gulf Coast because of the extra decarbonization, so we've got to do the tie-in of the Carbon Capture Trunk Line. Then, we also have to build the autothermal reformer.

We'll be working with the Canadian government for additional subsidies. Obviously, we're working from an engineering, and a design, and construction perspective to try and get more efficiency from what we learned with our Texas-9 asset.

Plus, your points of I firmly believe we will be able to monetize polymers coming off of those assets at a premium to the market, because they will be zero-carbon polymers. Look, that gets the entire organization and our customers very excited that we can do that. That does represent the new Dow and where we're heading as an enterprise.

Jeff: The theory behind the decarbonization at Dow is that it accelerates your growth, and you think you can get a higher return on capital, in part because of the assets that you're choosing to develop and the demand for those products.

Howard: Exactly right. You said it well about Alberta. We've been in Alberta for a very, very long period of time, and it served us well. People talk about the US shale advantage, which is real, and we're certainly seeing that now with everything that's going on with the hydrocarbons around the world in Brent and naphtha.

The Alberta advantage, which is also structural, is even better than the US shale advantage and has been an advantage for a much longer period of time, and it is bigger. That's going to serve us well. Where it's positioned allows you to service North America, but also allows you to export from Alberta to the rest of the world as well.

Jeff: One of the ways, it seems to me, that Dow's a little bit different from Lyondell, or Westlake, or Celanese, or any number of companies is Dow has chosen not to acquire over the last several years in any size.

In fact, it's gone a little bit in the other direction by finding businesses that are non-strategic and divesting them. Dow's net debt to EBITDA is always a little bit of a puzzle to me, because there's off balance sheet this and off balance sheet that.

When you look, you think that the net debt to EBITDA should be pretty low, but somehow, it's pretty high, and there's pension. Was your disinclination to acquire strategic, or was it more force of circumstances because of Dow's unique financial structure so that it was more constrained, and Dow needed to be on a firmer financial footing before it acted?

Can you talk about your thought process, or Dow's thought process?

Howard: I certainly agree with you that we have done a fair amount of divesting, and that was around focus. When you think about the operating model, you think about the old Dow, we had a range of operating models, a very, very fast cycle. Electronics, where if you didn't reinvent your product mix every three years, you'd be out.

Very long cycle with ag, where there's Big Pharma. You were making 10-year R&D bets. If you think about all the transactions, it was focused. To be fair, we did acquire. We acquired the 50 percent ownership of Dow Corning that we didn't own from Corning.

That also was a best owner mindset transaction. We were talking to Corning for a long time. We were moving a lot closer to the Dow Corning business model, and Corning was moving away, and so that made a lot of sense for us to do that acquisition. We've done divestitures, we've done acquisitions.

It's all in the spirit of focus, and the spirit of the similar operating model, and are we the best owners? Every one of those transactions, and improving our return on capital. If you think about the chlorine transaction, that was our lowest return on capital business and our highest need for capital.

We were never going to invest in that business versus some of the other opportunities we had across the portfolio, and so that made sense for us to do that. That has been and will continue to be our focus.

Jeff: You were speaking about chlorine for a moment. I think that your supply of your chlorine and caustic by another company, if I remember, it is was under quite attractive financial terms when the split occurred.

Is Dow going to get back into the chlorine business in the United States, or what you're going to do is find a way to get the chlorine and caustic molecules that you need?

Howard: We are not making any new announcements, Jeff. We have no intention of getting back into the business. We have a series of mutually beneficial agreements. We also have lots of different alternatives. We'll do what's right for Dow over the long term, but that does not include going back into the upstream chloralkali chain at this point in time.

Jeff: If you think about what DuPont has done over time, what DuPont did is it separated off titanium dioxide, and then separated from agriculture, and then it's mobility business, and it's bought more electronics. What it seems to be doing is discarding, and then drawing from the deck, thinking that he can get a higher card.

When you think about Dow, are you content with the three legs of the Dow stool? Do you see those legs as connected together to form a stronger and more consistent Dow over time?

Howard: Look, the short answer is never content, always. You know me, I'm a very competitive individual. We're constantly striving to deliver even more results. We do like the portfolio that we have today. We do believe that we are the right natural owner. We publish benchmarking.

We had many changes as we were spinning the new Dow out. One is having a lot more transparency, publishing our capacities. We also did market-based transfer of ethylene as opposed to cost-based, and then we also do an annual benchmarking. Internally, we're looking at that every quarter, but we publish it externally.

In April, we'll publish the next round. We're constantly striving to have at least first quartile performance on the benchmarks. If it's possible, we will certainly always strive to be best-in-class. If you look at what we've been able to do with our earnings and our cash flow, even if you look at you talked a little bit about the balance sheet.

We were one of the few companies to exit 2020, which was a very tough year for our industry, with a stronger balance sheet than when we went in because of all the cash flow interventions that we've been focused on. That's another big change of the new Dow.

In the old Dow, only the CEO and the CFO managed cash. In the new Dow, every business leader around the world has a P&L, they have a balance sheet, and they have a cash flow statement. If you sum all those cash flow statements, that adds up to the cash flow statement that Jim, and I, and the leadership team manage.

As a result, you've seen, and you should continue to see, a step change in performance in our cash flow. Some of the analysts who cover our stock are probably still underappreciating the amount of cash flow that we can generate over the next several years.

Jeff: The thing about cash flow is sometimes, it sounds like Dow wants to spend three billion dollars on CapEx, and sometimes it sounds like they want to spend two billion dollars on CapEx.

Do you have any commentary about where that normal line is and what the important capital projects are, exclusive of the Alberta project?

Howard: Yes. I think we've been pretty clear, so I'm not sure why people would be confused. In the spirit of clarification, Jeff, I will be happy to clarify. Look, our D&A is $2.9 billion.

The new Dow, we've clearly said we're not going to spend more than D&A. As we spun out, we clearly said we're going to spend significantly less than D&A. We had committed to that for at least three years, and we delivered that.

In fact, we ratcheted CapEx in 2020, even below where we had talked about at spin to $1.3 billion. We said we were going to spend $1.6 billion in CapEx last year. We spent 1.5, or we invested 1.5. This year, we've said we're going to spend $2.2 billion.

Over the next three years, depending on how the markets evolve and how the projects look, we will likely ramp that number from 2.2 this year up to $2.9 billion as long as they're good-quality projects, low execution risk, high return on invested capital projects.

Of the 2.9, what we've also said, a billion of that will be focused on decarbonize and grow. That's how you should think about us. The plan is we can continue to grow the enterprise, we can decarbonize the enterprise, and we can drive our return on capital over the cycle north of 13 percent. We're well on our way.

Jeff: When I look at that large project that you have, I think it's supposed to come on in 2028. It doesn't seem to me that Dow is expanding its overall ethylene polyethylene capacity at a rate that's at or above the market. It seems to me that it's at a rate that's somewhat below the market. Where does that conservativism come from?

I understand that it's in the direction of a much more profitable set of assets, but it seems that Dow is a little bit more conservative when it looks out over a longer period of time as to how it wants to expand this part of its asset footprint.

Howard: Look, our long-term philosophy is to always be a little bit net short on that last increment, from an ethylene perspective. I would say as we look at our decarbonize and grow investments, every project will look a little bit differently. Why are we starting with Alberta?

We talked about all the good reasons that Alberta makes a lot of sense. Look, we have deep

customer as well as brand owner relationships that are long-term relationships, and we're going to continue to develop products and upsell to those premium brand owners. We're not necessarily just focused on market share, though.

We have to get a good return on our invested capital. We believe that we can do both. We believe we can grow with our customers, and we can decarbonize our company or our enterprise, and at the same time, improve our return on invested capital by doing things in a disciplined and balanced way, which is what we've been focused on since prior to spin.

Jeff: When you talk to your largest shareholders, what do they want from you? The ones that have looked at Dow in the past, and looked at Dow in the present, in the future, do they see the current administration is different from the past? Do they see you on a different path? What path do they want you to be on?

Howard: I would encourage you to ask them. It's dangerous for me to speak on behalf of our largest owners. I would say that when we talk to our owners about decarbonize and grow, drive earnings and cash flow higher over the economic cycle, that focus on cash has been critically important.

Improving our return on capital and decarbonizing the enterprise, that always has been resonating with our owners, and the focus on being disciplined and balanced in our capital allocation. Not spending more than D&A, and then having that 65 percent of net income going back to our owners, that's resonating with our investors.

Jeff: Howard, to come back to the present for a moment, can you talk about some of the cost pressures Dow is under, or the sources of the cost pressures, maybe the magnitude of the cost pressures, and how you've been able to overcome them in having an optimistic view for the first quarter?

Howard: Look, the cost pressures, Jeff, and hopefully you'll give me credit that as far back as a year ago, I was very public saying that I didn't think the inflation was transitory. I think it's still going to be with us for a while.

It was the move that the Fed made yesterday with a quarter point is in the direction of goodness, but they still have more work to do. If you think about Dow in that macroeconomic environment, if you go back, we've looked at this in the last five cycles of increasing interest rates.

Where Dow sits in our sector, we tend to outperform. We have outperformed in every one of those sectors as the Fed starts to move interest rates. Why? Because you've got an inflationary environment that typically coincides with higher hydrocarbons environment.

As long as demand is healthy, which demand is still healthy, that allows us to raise price. Look, inflation is real. Our costs were up 20 percent last year. They're in that same range in the first quarter, even worse from a hydrocarbons perspective, given the naphtha world and what's going on with energy costs in Europe.

As long as you've got good fundamental underlying demand, you're able to drive price. We're seeing good price increases in March. We've got price increases pretty much in every region of the world in almost every value chain already scheduled and out there in the marketplace for the month of April, so we'll see. That's how we have to do it.

Continue to stay focused and be operationally excellent and sweat the assets. Those are the things that you've got to focus on.

Jeff: Of course, China is a gigantic market for ethylene and polyethylene. What do you think of the profitability of those crackers at this point in time in this very high naphtha environment? How might that affect the pricing of global polymers, global polyethylene?

Howard: I would say a couple of things. One, we're fortunate that we don't have any assets in that country today, because basically, pretty much the vast majority of naphtha-based crackers, frankly, in Asia-Pacific are negative cash margin and have been for quite a while now.

It only has gotten worse in the last few weeks. It came off in the last couple of days, and I saw this morning Brent is back up again seven-plus percent. Look, that's under water, negative cash margin. I would say, look, we have both been doing this for a very long time.

One of two things has to happen, because it will not be at negative cash margin for the next four to six quarters. Either pricing of derivatives has to move up, or production rates will come down.

Already, in the last two weeks, in Asia, you've got a dozen crackers that represent around 10 million metric tons of capacity that are trimming rates between 10 and 20 percent.

Then, you've got Russia, which is a few percent of the world's ethylene market, that they're going to struggle with producing or certainly exporting, shipping. Then, you've got Western Europe,

which is also dealing with the same things.

You probably have 10 percent of the world's ethylene, all of it based on either naphtha or coal, that's trimming rates. You're already starting to see what's going to play out. It likely will continue.

My gut says prices are going up, unless you're bearish on demand. If you are bearish on demand, then more assets will come off over the next, call it three to six months to rebalance.

Jeff: That sounds like an environment where Dow should fare well. We very much appreciate your presentation. We hope you come back next year in person.

Howard: Definitely. Great to see you, Jeff.

Jeff: Likewise. Thank you.

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