



Caterpillar, Inc.

Fourth Quarter 2021 Earnings Conference Call

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C O R P O R A T E P A R T I C I P A N T S

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Rob Wertheimer, *Melius Research*

David Raso, *Evercore ISI*

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P R E S E N T A T I O N

Operator

Welcome to the Fourth Quarter 2021 Caterpillar Earnings Conference Call.

Please be advised that today's conference is being recorded.

I would now like to hand the conference over to your speaker today, Jennifer Driscoll. Thank you. Please go ahead.

Jennifer Driscoll

Thanks, Emma.

Good morning, everyone. Thank you for joining the fourth quarter earnings call for Caterpillar. With me are Jim Umpleby, Chairman and CEO; Andrew Bonfield, Chief Financial Officer; Kyle Epley, Vice President of the Global Finance Services Division; and Rob Rengel, Senior Manager in Investor Relations.

Earlier this morning, we issued our earnings news release. You can find the release and accompanying slides on Caterpillar.com in the Investors section under Events and Presentations. In the back of the slides you'll find supplemental information on dealer inventory and order backlog.

We have copyrighted this call. Please don't use any portion without our prior written approval.

Now on Slide 2, during our call we'll make forward-looking statements. These are subject to a host of risks and uncertainties. For more information about the risks and uncertainties that could cause our actual results to vary materially from any forward-looking statements, please refer to our SEC filings, including our 10-Q filings for the most recent quarters.

On today's call we'll also refer to non-GAAP numbers. For a reconciliation of any non-GAAP numbers to the appropriate U.S. GAAP numbers, please see the Appendix of the earnings call slides.

This morning, we announced profit per share of \$3.91 for the fourth quarter of 2021. That compares with a profit per share of \$1.42 in the fourth quarter of 2020. Our adjusted profit per share was \$2.69 in the fourth quarter of 2021, compared with \$2.12 in the fourth quarter of 2020. Adjusted profit per share for both quarters excluded restructuring and mark-to-market gains or losses for remeasurement of pension and other post-employment benefit plans. In the fourth quarter of 2021, we had \$1.19 per share of remeasurement gains and \$0.03 per share of net restructuring income due to a gain on a sale of a facility. In the fourth quarter of 2020, we had \$0.63 per share of remeasurement losses and \$0.07 per share of restructuring expenses.

Please keep in mind two dates: We'll announce our first quarter earnings April 28, and we'll host our next Investor Day May 17.

And with that, turn to Slide 3. We'll give the call over to Jim Umpleby.

Jim Umpleby

Thank you, Jennifer. Good morning, everyone. Thank you for joining us.

I'd like to start by recognizing our global team for their continued resilience and hard work in what proved to be a challenging and dynamic environment. We're proud that we achieved our best year on record for employee safety for the third year in a row.

In 2021 we continued to execute our strategy for long-term profitable growth while striving to meet strong customer demand.

I'll briefly cover a number of topics. I'll start with my perspective on the quarter. Then I'll give a brief update on our supply chain, followed by comments on services and our end markets, before closing with an update on Caterpillar's sustainability journey.

We were encouraged by the continued strong customer demand in the quarter.

Sales and revenues rose in all regions and in the three primary segments due to volume gains and favorable price, and similar to the third quarter, absent the continuation of supply chain constraints, our top line would have been even stronger.

On the other hand, our margins were lower than we expected, primarily because of two factors. First, freight costs were higher than expected due to inflationary pressures, as well as our decision to increase the use of premium freight to meet as much customer demand as possible.

The second factor was production inefficiencies. As I mentioned, underlying demand is stronger than we can currently supply, due to ongoing supply chain constraints. We made the decision to keep our plants open and fully staffed to best serve our customers and meet as much demand as possible. We believe it's the right decision to incur some short-term margin impact, rather than take actions that might limit our ability to more fully satisfy demand when supply chain conditions start to improve. We also continued to redirect components, alter our assembly processes and optimize where we can. Some of these actions aimed at maintaining our production flexibility come with additional short-term costs. When the supply chain bottlenecks begin to ease, we expect to be well positioned to increase our production to more fully meet demand and gain operating leverage from higher volume.

Material cost also impacted us this quarter, but unlike freight and inefficiencies, it was within the range we had anticipated. As you know we implemented price increases during 2021. We're taking further action in 2022 with the intent to offset the impact of underlying inflation.

That's the general picture. Andrew will provide more details on our margins, and how the combination of supply chain pressures and pricing will likely affect the cadence of our quarterly margins in 2022.

Now on Slide 4, our top line rose by 23%. The primary drivers of the volume gains were increases in sales to users, including original equipment and services, and changes in dealer inventory. For the full year 2021, services sales grew 17% to \$19 billion. Services growth in 2021 benefited from investments in our digital capabilities and the increased focus we and our dealers placed on meeting customer needs for services, particularly aftermarket parts. We saw significant increases in 2021 in ecommerce sales, in sales of customer value agreements, or CVAs; and in prioritized service events, or PSEs. In 2021, our ecommerce orders increased significantly, and now we have critical mass in connectivity with more than 1.2 million connected assets.

It is encouraging to see services sales in 2021 higher than in 2019, while our total company sales in 2021 remained lower than in 2019. We continue to strive to meet our aspirational target of doubling services to \$28 billion by 2026.

Compared with the fourth quarter of 2020, sales to users rose 7%. Gains were across the three segments. For machines, including Construction Industries and Resource Industries, sales to users rose 5%. For Energy & Transportation, sales to users increased 12%. Sales to users in Construction Industries rose by 4%, with double-digit growth in EAME and Latin America. In North America, residential construction remained strong in elevated housing construction, while non-residential demand continued to

improve at a slower pace. In Asia Pacific, end-user demand slowed, reflecting the expected moderation in China construction. However, excluding China, sales to users were positive in Asia Pacific, driven by favorable commodity prices and government stimulus.

In Resource Industries, sales to users rose by 10%. Mining saw healthy gains in the quarter supported by strong commodity prices and the replacement of aging equipment. Sales to users increased versus the prior year in Heavy Construction and Quarry and Aggregates for the third straight quarter.

In Energy & Transportation, sales to users were up across all applications versus the prior year. We saw double-digit growth in Industrial and Transportation, although from a low base. We experienced strength across many applications for Industrial, and international rail deliveries benefited Transportation sales, as expected. Oil & Gas grew from demand for both reciprocating engines and turbines. Finally, Power Generation sales to users increased as data center demand remained strong.

Overall, total sales to users growth in the quarter moderated versus the second and third quarters. As a reminder, the impact of the pandemic lessened in the fourth quarter of 2020. In addition, the supply chain challenges have constrained our ability to fully meet end-user demand.

As independent businesses, dealers make their own decisions about their inventories. Changes in dealer inventories drove about a \$1 billion tailwind to sales compared with last year. Dealer inventory was nearly flat in the fourth quarter compared with the third quarter of this year. In the fourth quarter of 2020, dealers decreased their inventory by about \$1.1 billion. To put it in context, our year-end dealer inventory in 2021 also finished about flat with year-end 2020, as we expected.

Dealer inventories are generally near the low end of the typical range due to strong customer demand and our supply chain challenges. Currently, availability is extended for some products due to the shortage of semiconductors and other components. With the exception of China, end-user demand for our equipment remained strong.

Turning to Slide 5, in 2021 we met our 2019 Investor Day target for adjusted operating profit margins for the third year in a row. We also met our target for free cash flow for Machinery, Energy and Transportation, or ME&T. Our strong cash flow enabled us to return \$5 billion to shareholders this year through dividends and share repurchases. We have paid a higher dividend annually for 28 consecutive years and are proud of our status as a Dividend Aristocrat. We expect to continue to return substantially all of ME&T free cash flow to shareholders through dividends and share repurchases over time.

Next on Slide 6, I'll share some high level assumptions for the full year.

First, in 2022, based on what we know today, we expect to achieve our Investor Day targets for adjusted operating profit margins and ME&T free cash flow. That said, the environment remains uncertain due to COVID and other issues, including continuing supply chain disruptions, freight and material cost inflation, and labor availability. Our focus is long-term profitable growth. Despite the challenging environment, we continue to invest in services, electrification, autonomy, alternative fuels and digital technology, all of which support our strategy.

Now I'll describe our outlook for key end markets this year.

Demand remains strong, as demonstrated by robust orders. In addition, we are receiving positive input from our customers and dealers. A key variable remains the supply chain, namely to what degree can we fully meet strong customer demand. In Construction Industries in North America, residential construction continues to be the main growth engine, with nonresidential also improving. We believe the U.S.

Infrastructure Investment and Jobs Act will begin to fuel increased investment in capital equipment late this year, into 2023 and beyond.

In China, we expect the industry for excavators above 10 tons to return to 2019 levels, reflecting weakness in housing construction. We expect the balance of Asia Pacific to have good growth fueled by higher investments in infrastructure.

Turning to EAME, positive fundamentals include government stimulus actions, construction confidence, new orders and commodity prices.

Latin America is expected to benefit from construction activity and mining, supported by commodity prices, although strong inflation could make it more challenging.

In Resource Industries, we anticipate elevated commodity prices will support continuing improvement in demand for mining products and services. We also expect growth in heavy construction, and quarry and aggregates to continue in 2022. We now currently operate autonomously on 18 sites on three continents with more than 500 large mining trucks, and have now moved more than 4 billion tonnes. Technology and autonomy offerings deliver significant benefits across the board, from boosting safety and productivity to more consistent and efficient operations. Autonomous operations enable higher machine utilization, leading to reductions in idle time and nonproductive fuel burn.

In Energy & Transportation, we see improved sales across most applications, and we had strong order rates, including for large engines, in the fourth quarter. While we expect our Oil & Gas customers to continue to display capital discipline, we do expect growth in our reciprocating engines and aftermarket services for Oil & Gas.

We see growth in reciprocating engines for Power Generation with strength across many applications: Industrial, which includes engines for our own equipment and loose engines sold to customers, is projected to grow across many applications, including construction, agriculture and electric power. We expect a modest increase in Transportation, primarily in rail services. We also anticipate growth in marine from a low base as customers update aging fleets.

In 2022, Solar is expected to be impacted by the dampening industry cycle. We expect Solar's new equipment sales to be lower this year, which will be partially offset by continued services growth. Solar is experiencing healthy inquiry activity which indicates the likely recovery in customer deliveries in late 2022 and into 2023.

Now on Slide 7, we significantly advanced our sustainability journey in 2021, and we continue to focus on this important element of our strategy. In 2021, Caterpillar and our customers announced a number of projects that will help contribute to a lower carbon future. I'll highlight several more that occurred since our last earnings call.

In November, Newmont announced a strategic alliance with Caterpillar to deliver fully automated, zero-emissions mining equipment and technology. The investment encompasses a U.S. surface mine and an Australian underground mine, while also deploying Caterpillar Minestar across all Newmont sites.

We also announced a three-year collaboration with Microsoft and Ballard to demonstrate a power system with large format hydrogen fuel cells to produce backup power for Microsoft data centers. Caterpillar is providing the system integration, electronics and controls that form the central structure of the power solution, which will be fueled by low-carbon intensity hydrogen. The project is backed by the US Department of Energy.

In December, Progress Rail entered into a Memorandum of Understanding with BNSF and Chevron to advance the demonstration on BNSF's line of a locomotive powered by hydrogen fuel cells. Progress Rail plans to design and build a prototype hydrogen fuel cell locomotive with Chevron developing the infrastructure to support it.

Earlier this month, Teck Resources, one of Canada's leading mining companies, announced a partnership with Caterpillar to deploy 30 zero-emissions large haul trucks, including CAT 794 ultra class trucks at their mining operations beginning in 2027. This collaboration will support their goals to reduce the carbon intensity of their operations by 33% by 2030 and be carbon-neutral by 2050.

And finally, Union Pacific is purchasing 10 Progress Rail battery electric locomotives, making them our fourth customer for this new technology. In railroads in California and Nebraska, they will be tested in diverse weather conditions and evaluated for broader deployment in support of Union Pacific's emissions reduction goals.

We're excited about the opportunities associated with the energy transition, which includes rising demand for commodities used in electric vehicles and other applications benefiting Resource Industries. The significant infrastructure investments associated with the energy transition also support growth in Construction Industries. In addition, they increased demand for a number of products in our Energy & Transportation segment, including distributed power generation and our integrated systems and solutions to help our customers to meet their climate-related objectives.

Caterpillar continues to invest in research and development to support a wide variety of fuel types, energy storage and hybrid solutions.

In summary, we're continuing to execute our strategy for long-term profitable growth. The three core elements of the strategy remain: services, expanded offerings and operational excellence.

Services growth and our record safety performance are among the many highlights of 2021. We remain committed to a reduced carbon future, both in our operations and helping customers reach their climate-related goals. We continue to introduce products and services that facilitate fuel transition, increase operational efficiency, and reduce emissions. While we continue to face supply chain challenges that negatively impacted our top line and our fourth quarter margin performance, we're focusing on meeting as much customer demand as possible and remain encouraged by the continuation of strong end-market demand. Our team delivered 2021 adjusted operating profit margins in ME&T free cash flow consistent with the long-term targets we set at our 2019 Investor Day, while continuing to invest in our long-term strategy for profitable growth.

With that, I'll turn the call over to Andrew.

Andrew Bonfield

Thanks, Jim, and good morning, everyone. I'll begin with a recap of Caterpillar's fourth quarter results, including the performance of each segment. Then I'll comment on the balance sheet and cash flow, before concluding with a few assumptions about the first quarter and full year of 2022.

Starting with the fourth quarter on Slide 8, our sales and revenues rose by 23%, or \$2.6 billion to \$13.8 billion. Volume growth led the way and was broad based as demand remained strong. Operating profit increased by 17% to \$1.6 billion as volume growth and favorable price were partially offset by freight, material and short-term incentive compensation headwinds. As Jim has mentioned, operating margins were lower than we had anticipated, primarily due to elevated freight costs and plant inefficiencies, which I'll discuss further in a few moments.

Fourth quarter profit per share was \$3.91 compared to \$1.42 last year. We had our usual impacts from mark-to-market accounting for remeasurement of pension and OPEB plans. That included \$1.19 per share favorable in the fourth quarter of this year compared to \$0.63 per share unfavorable last year.

Restructuring was actually a net income of \$19 million in the quarter due to the gain on the sale of a facility. In addition, some of our planned restructuring activities that we had originally expected to complete in the quarter were pushed back into 2022.

We reported adjusted profit per share of \$2.69 in the fourth quarter, compared to \$2.12 last year. This performance included a lower than expected global tax rate and some discrete tax items, which together added approximately \$0.36 to fourth quarter profit per share.

Now on Slide 9, as we had anticipated, the top line for the fourth quarter was the strongest of the year, coming in slightly better than normal seasonality would imply. Dealer inventory provided about a \$1 billion tailwind versus the comparable quarter in 2020 when dealers reduced their inventories by \$1.1 billion. Sales to users growth decelerated a bit sequentially, but remained strong despite a tougher comparison period, particularly in China. Price realization strengthened as we saw the benefit of additional price actions begin to flow through. Services continued to be a bright spot.

I want to take a moment to provide some color on dealer inventory. Caterpillar dealers typically hold between three and four months worth of inventory based on projected sales for the next 12 months. For the past year they've been near the low end of that range. Because of strong sales to end users and supply chain constraints, dealers have prioritized customer orders over building inventory. As a result, dealers have been unable to restock as would have been their normal practice. Given the current constrained environment, we don't expect to see a significant benefit from dealer restocking in 2022.

Fourth quarter sales and revenues increased in every region. In North America, our largest region, sales increased by 27% with strong growth in all three primary segments, but led by Construction Industries and Resource Industries.

In EAME, sales rose by 24% as fundamentals remained strong. Latin America sales grew by 38% from a low base. Asia Pacific sales increased by 9% as gains in Energy & Transportation and Resource Industries more than offset lower revenues in Construction Industries. Excluding China, Construction Industries sales in the regions grew versus the prior year's quarter.

Just to remind you, the quarterly sales profile for China in 2020 was very different from the normal seasonable pattern with a strong second half due to the timing of stimulus activity. In 2021, we have returned to the more typical profile of a stronger first half of the year ahead of the selling season. This has made for a particular tough comparison as China sales were abnormally strong in the fourth quarter of 2020.

Now, let's review the bottom line on Slide 10.

Fourth quarter operating profit increased by \$231 million or 17%. Compared to the prior year, strong volume and favorable price realization were the principal drivers of the increase. Higher manufacturing costs and SG&A and R&D expenses partially offset these gains.

Acceleration in freight, manufacturing inefficiencies and material costs drove the manufacturing cost increases. The freight costs included both inflation and standard rates and the increased use of premium freight.

The reinstatement of short-term incentive compensation had an impact on manufacturing costs and SG&A and R&D expenses, albeit at a slower rate than previous quarters.

Beginning in the second quarter, we told you that we had expected price realization to offset higher manufacturing costs for machines in 2021. We have come up just short of that goal as the unfavorable impacts of rising freight costs and the manufacturing inefficiencies during the fourth quarter were more significant than we had expected.

As we had noted previously, due to taking a price action later in the year, we had expected a lag in Energy & Transportation price realization, so material cost increases and sharply rising freight costs negatively impacted Energy & Transportation's margins more significantly than they did for the machine groups.

Moving to margins, the adjusted operating profit margin was 11.4%, a decrease of 140 basis points, with short-term incentive compensation expense a headwind of roughly 150 basis points of margin in the quarter.

As both Jim and I have acknowledged, margins for the fourth quarter deteriorated by more than we had expected. To provide a bit more perspective, we typically see margins decrease sequentially by between 100 to 200 basis points from the third quarter to the fourth quarter. However, in the fourth quarter of 2021, the spike in freight costs along with the plant inefficiencies that Jim described caused an additional unfavorable impact of around 100 basis points or so. Most of this was due to the need to ship components using premium freight and factory inefficiencies that resulted from challenges caused by component shortages as we prioritize meeting customer demand. We believe that these margin headwinds are temporary and will only last as long as the supply chain challenges remain.

Our price actions are designed to cover increases in underlying input costs, but do not anticipate factory inefficiencies or premium shipping which had to be used to serve our customers. There is no doubt that this will impact some part of 2022, but it's impossible to be certain when these costs will abate.

Now looking at the full year, our adjusted operating profit margin was 13.7%. As Jim mentioned, we have achieved our 2019 Investor Day margin target of adjusted operating profit margins being 300 to 600 basis points better at a comparable level of sales to the reference period of 2010 to 2016. We have done so while investing in new product launches, services and sustainability. Of note, R&D expense, including higher short-term incentive compensation, increased by 19% for the full year.

Our global effective tax rate for the fourth quarter was approximately 23% versus the 25% we had assumed previously. The improvement primarily related to changes in the geographic mix of profits from a tax perspective.

Adjusted profit per share was \$2.69, reflecting the stronger volume, favorable price, as well as the lower than expected global tax rate.

Moving to Slide 11, let's take a look at the segment performance, starting with Construction Industries. Sales increased by 27% in the fourth quarter to \$5.7 billion, primarily driven by strong sales volume and favorable price realization. The improvement in volume was due to a smaller reduction year-over-year in dealer inventories and higher end-user demand. End-user demand improved in three of the four regions.

In North America, we saw our largest sales growth as nonresidential demand continued to improve, and housing construction remained supported. End-user demand eased in Asia Pacific due to challenging comparators in China that I spoke about earlier.

The segment's fourth quarter profit increased by 25% to \$788 million on higher sales volume and favorable price realization. Cost increases related to material and freight were more than offset by price increases, however, the segment's operating margin decreased by 30 basis points versus last year to 13.7% due to the headwinds of factory inefficiencies and higher short-term incentive compensation expense.

Turning to Slide 12, Resource Industries sales increased by 27% in the fourth quarter to \$2.8 billion. The improvement was mostly due to higher end-user demand and favorable price. End-user demand increased in mining as well as heavy construction and quarry and aggregates.

Fourth quarter profit for Resource Industries increased by 12% to \$305 million. Increased manufacturing costs including freight and material costs, and higher SG&A and R&D expenses were more than offset by higher sales volume and favorable price realization. The increase in SG&A and R&D expenses was driven by investments and higher short-term incentive compensation.

In Resource Industries, price realization takes longer to come through results because of the equipment's longer lead times between the time of an order and date of delivery. However, as we progress through 2022, we expect more benefits to flow through from the price increases we have taken. The segment's operating margin decreased by 150 basis points versus last year to 11.0%.

Now on Slide 13, Energy & Transportation sales increased by 19% to approximately \$5.7 billion with sales up across all applications. That included a 22% sales increase in Oil & Gas, including aftermarket parts for reciprocating engines. Gas compression also supported reciprocating engine sales.

Power Generation sales increased by 7%, driven by reciprocating engine aftermarket parts sales.

Industrial sales rose by 29%, with strength across many applications.

Last, Transportation rose by 17% on strong international rail deliveries and services in the quarter.

Profit for Energy & Transportation decreased by 2% to \$675 million. Volume and price gains were more than offset by higher manufacturing costs, short-term incentive compensation expense, and investments in growth initiatives such as the energy transition.

Keep in mind that the majority of our core investments in the energy transition—for example, in electrification—impact this segment. Freight costs increases were particularly significant in the quarter, driving the higher manufacturing costs. The segment's operating margin decreased by 250 basis points versus last year to 11.8%.

On Slide 14, Financial Products had a very strong quarter. Revenue increased by 4% to \$776 million. Segment profit increased by 27% year-over-year to \$248 million. The year-over-year profit increase was partly due to continued strong demand for used equipment, where worldwide used sales were our highest on record in 2021. The segment also benefited from a lower provision for credit losses at Cat Financial.

Moving to our credit portfolio, it's in good shape as customer health indicators remain positive. Past dues continued to improve across all portfolio segments to 1.95%. That's down 154 basis points year-over-year and down 46 basis points compared to the third quarter. It's the lowest past dues level we've seen in 15 years. New retail lending hit an eight-year high in the fourth quarter.

On Slide 15, ME&T free cash flow was \$1.8 billion in the quarter, an increase of about \$160 million versus the fourth quarter of last year. The increase was due to higher profit adjusted for non-cash items, which includes higher accruals for short-term incentive compensation. ME&T generated \$6 billion in free cash

flow this year, almost double compared to the prior year and in line with our Investor Day target of between \$4 billion and \$8 billion.

We recently declared our quarterly dividend of \$1.11 per share or around \$600 million per quarter. In 2021 we paid around \$2.3 billion in dividends. We are proud of our Dividend Aristocrat status which we maintained following the 8% quarterly increase announced in June of last year.

We completed \$1 billion in share repurchases in the fourth quarter for a total of \$2.7 billion in 2021. In aggregate, we returned \$5 billion to shareholders, which represents 83% of our ME&T free cash flow in 2021. Over the past four years, on average we've returned 99% of our ME&T free cash flow to shareholders. That aligns to our target to return substantially all of our ME&T free cash flow to shareholders over time.

The Company ended the year with \$9.3 billion in enterprise cash, a strong position. As always, given our captive finance organization, which helps our customers acquire our equipment, we continue to maintain a strong balance sheet as we prioritize our mid-A credit ratings.

Now on Slide 16, in light of the fluid environment, we will continue to not provide guidance for our annual profit per share. However, to assist with modeling the Company, we'll continue to share some high-level assumptions for the upcoming quarter and full year.

Looking to the first quarter, we expect the top line to increase versus the prior year on stronger end-user demand and higher prices. We also expect to see a dealer inventory increase, which would follow our normal seasonable pattern as dealers prepare for the spring selling season. However, we anticipate that increase will be slightly less than normal given supply chain constraints and high levels of committed orders.

For the full year, we expect the environment to support strong end-user demand and higher pricing. The extent that we'll be able to fulfill that demand will be impacted by the supply chain challenges we've discussed today. As these alleviate, we would expect to see an acceleration in sales to end users. As we have noted, our order books and backlog are robust, but we do expect the supply chain to constrain our volumes.

Before I discuss margins, I want to highlight how unusual the last two years have been. In 2020, the full impact of the pandemic started to be felt from the end of the first quarter. Whilst demand started to improve throughout 2021, we then started to see the impact of commodity and freight inflation, as well as significant supply chain pressures build through the year. This makes our normal quarterly phasing more difficult to model as there are fundamental changes in the underlying comparators that make historic norms less relevant. Let me explain.

In 2021, pricing was slow to ramp up and picked up third and fourth quarters of the year, following mid-year and October price increases. From a cost perspective, material and freight costs were about flat in the first quarter, and then ramped up through to be at their highest in absolute terms in the fourth quarter. That sets up our comparisons.

Then this year, we will begin the year with carryover pricing from mid-year and October 2021, and then we expect to have additional pricing in 2022. That's why we expect pricing to be more or less evenly spread across the quarters as we move through 2022. Then, we will lap those rising material and freight costs and manufacturing inefficiencies as we move toward the back half of the year, so we will have easier comparisons.

In a nutshell, we anticipate the greatest headwinds to margin in 2022 to occur in the first quarter. This is completely counter to the normal historic pattern of strong margins in the first quarter with margins decreasing sequentially to the fourth. We expect those headwinds to margins to abate as the year goes on as we realize more price and as we lap the higher costs.

More importantly, we intend price increases to more than offset manufacturing cost increases in 2022, assuming the current level of supply chain disruption does not deteriorate.

I'll provide a few more key assumptions for you to keep in mind as well.

Our short-term incentive compensation expense is anticipated to be around \$1 billion for the year, or \$250 million per quarter. That's a \$50 million tailwind in the first quarter. Also, we'll have about a \$1.3 billion cash outflow in the first quarter related to the payout of last year's incentive compensation.

We anticipate an increase in R&D, reflecting continued acceleration in investments related to initiatives such as sustainability, electrification and digital.

Restructuring expense should be a headwind for the year. We anticipate around \$600 million in restructuring expense in 2022, compared to \$90 million in 2021. The increase is larger than usual due to actions to address certain challenged products we've already announced, some of which were delayed a bit. Keep in mind that our adjusted profit per share calculation excludes restructuring costs. We also estimate prior restructuring actions will benefit 2022 by around \$75 million. In addition, we assume an annual global effective tax rate of around 25%.

Finally, we anticipate Capex to be in the \$1.4 billion range.

Turning to Slide 17, let me recap today's key points.

We met our adjusted operating margin and ME&T free cash flow targets in the challenging year. End-user demand remains strong, and in a challenging supply chain environment we kept our factories open, maintained our production flexibility, and recognized \$2.6 billion more in revenues.

We continue to execute our strategy for long-term profitable growth as we expand our offerings in preparation for the energy transition. We anticipate stronger sales volume in the first quarter versus the prior year, while margins will be pressured in the first quarter as costs remain elevated and the full benefits of pricing flow through evenly throughout the year.

With that, I'll take your questions.

Operator

Your first question comes from the line of Jerry Revich with Goldman Sachs. Your line is now open.

Jerry Revich

Yes, hi. Good morning everyone.

Jim Umpleby

Hi Jerry.

Andrew Bonfield

Hi Jerry.

Jerry Revich

Hi, good morning. I'm wondering if you can update us on your order prospect pipeline. In Resources, are you expecting an acceleration in replacement orders this year as the utilizations would suggest? To what extent are replacement orders being held back by customers waiting for scaled zero-emissions products over the next couple of years?

Jim Umpleby

Thanks, Jerry, for your question.

As we've discussing in the last several earnings call, we're positive about mining and just the general environment, everything from the energy transition driving the need for more commodities is creating opportunities in mining. We're continuing to see strong inquiry and quotation activity, and increasing orders, as we discussed. And we're working very closely with our customers to help meet their emissions goals as well. There's been a number of announcements I know you are aware of over this year. So, again, I don't believe it's holding up orders. We're seeing orders play out much as we had expected, and we've been communicating with you over the last few calls. Generally, we're still on the path of expecting not a big spike up but a continued gradual improvement in mining orders.

Operator

Your next question comes from the line of Robert Wertheimer with Melius Research. Your line is now open.

Robert Wertheimer

Thank you. Good morning everybody.

Jim Umpleby

Good morning, Rob.

Andrew Bonfield

Morning Rob.

Robert Wertheimer

I wonder if you would be willing to give us any expanded comments on aftermarket strategy. It's good to see the growth. I don't know though where you stand versus your internal goals, when you set this. I don't know if you have identified all the workflows to get you to your 2026 goal, what those workflows are. I wonder if you would just give any more commentary on that. Thank you.

Jim Umpleby

Thanks Rob

We were encouraged to see the 17% increase this year up to \$19 billion, and this is something that our company is very focused on, our dealers are very focused on, and we've talked about a number of the things that we're doing; everything from continuing to invest in our digital capabilities using analytics or what we call PSEs or prioritized services events, to send targeted leads to our dealers, signing more CVAs so that we have those contracts. That helps us better serve the customer, minimize downtime, maximize equipment availability, and capture more of the aftermarket as well, so it's a win, win, win for the customer, for the dealer and for Cat.

We are pleased with the progress that we're making. I'm never satisfied that we're moving fast enough. In every area of the business, I want us to move faster, but I am very pleased to see the commitment by our dealers, by our teams, to continue to execute on this initiative.

We said it wouldn't be a straight line up. We knew we had to make a number of investments, and we're making those investments, and we are starting to see progress on the top line as well.

So, again, so far, so good. We knew it would be a tough slog, but the whole company is aligned behind that goal.

Operator

Your next question comes from the line of David Raso with Evercore. Your line is now open.

David Raso

Hi, good morning. If I heard you correctly about the first quarter margins expected to be down sequentially from the fourth quarter, that would put us 400 basis points down year-over-year or so in the first quarter. I know it's a difficult environment, so we're just trying to get some sense of the comments you made of price costs being positive for the year and obviously that gets stronger as the year goes on in that assumption. How would you characterize after that first quarter margin decline year-over-year on the prospects for full-year margins getting back to flat? (Cross-talking).

Andrew Bonfield

David, it's Andrew. Apologies if you heard that we were expecting margins to decline sequentially. Actually, we don't. We expect them to be obviously impacted year-over-year as a result of the impact of our higher manufacturing costs versus prior. That actually we do expect still, sequentially, as you would normally see. Obviously, there's normally a big bump up between Q1 and Q4. We do expect overall that margin trend; we will see an increase, but it won't be as big an increase as you would normally have seen.

That impacts obviously—and so what we look at as we go through the year. We're thinking about obviously what we saw in the fourth quarter. Price was favorable by just over \$500 million, manufacturing costs adverse by about \$800 million. We expect a little bit better price in Q1 because of the impact of the October price increase we put through. That will then help a little bit. Obviously manufacturing costs will continue at a similar level because last year we actually had a small reduction in material costs in the first quarter. Freight did increase a little bit, so there will be a little bit of change between those two, but that will be the impact.

As we go through the year, obviously we start to lap those very significant manufacturing cost increases that we saw in Q3 and Q4, so the comps become easier, but price will remain pretty consistent throughout the whole year.

And again, just to remind you, our expectation is that revenues will rise in 2022, and obviously that does mean that obviously our margin targets will be impacted by that as a result of trying to maintain that comparable 300 to 600 basis points improvement versus the reference period of 2010 to 2016.

Operator

Your next question comes from the line of Jamie Cook with Credit Suisse. Your line is now open.

Jamie Cook

Hi, good morning. Just another question on the backlog. Obviously, it was very strong at \$22.8 billion. Is there any way you could help us break down how that looks sort of by segment and to what degree the backlog is price protected? Then, I guess, historically, you see an improvement in backlog or backlog is highest in the first and second quarters. Is that the way we should think about backlog this year on a seasonal basis? Thank you.

Jim Umpleby

Good morning, Jamie. I'll start, and then I'll kick it off to Andrew.

We do have a strong backlog, and the biggest increase was in E&T, and we feel good about that because in E&T, we tend to typically have a good line of sight to actual customer orders. So, we do feel positive about that.

Now, let Andrew take it from there.

Andrew Bonfield

On price protection, as you know, obviously, it depends segment by segment. We have a mix of some longer-term contracts where you do have excavators. But obviously, depending on the timing of an order, there will be some impact on backlog from pricing or price protection.

Key thing to note, and just to remind you, is when we look at our overall expectations for what we see as manufacturing cost increases versus price, we do take into account any price protection when we're looking and when we're able to say, we intend obviously for price to more than offset manufacturing costs next year. That takes into account those price protections we do have within that. And obviously, it depends by segment by segment. Obviously, if you've got a long-term mining order, that will have a different contractual response versus obviously something which is a skid steer, which is a retail type customer.

Operator

Your next question comes from the line of Larry DeMaria with William Blair. Your line is now open.

Larry DeMaria

Hey thanks. Good morning.

Jim Umpleby

Good morning, Larry.

Larry DeMaria

You guys mentioned semiconductors in your prepared remarks. I think we're all hearing mixed things, in some cases getting better, and in many cases getting worse. Can you just talk to semis specifically? Your outlook on the timing and magnitude of the improvements and how much inventory is idled and waiting to go out the door because of semiconductor shortages.

Jim Umpleby

Yes. Well, certainly, semiconductors have been a challenge for us, and I would say they have not started to get better from our perspective. Of course, it's very difficult to predict when the improvement will occur, but it's still creating a challenge for us. Semiconductors go into many kinds of electronic components, including engine controllers. It's one of the things that, as we look at margins in E&T in the fourth quarter, we talked about the premium freight. Part of that was a result of just because we couldn't get engine controllers because the engine controller manufacturer couldn't get semiconductors, we wind up air freighting more engines both to internal and external customers than we had anticipated. There's a lot of experts out there making predictions on when things will start to improve. We haven't seen that yet. We're hopeful as we go through the year that that will improve, but we haven't seen it yet.

Operator

Your next question comes from the line of Chad Dillard with Bernstein. Your line is now open.

Chad Dillard

Hi. Good morning. everyone.

Jim Umpleby

Good morning. Chad.

Chad Dillard

I was hoping you guys could talk about your volume production outlook for '22. With the current supply chain situation, can you grow production this year, and are there any segments that will see better production growth versus others?

Jim Umpleby

We certainly do expect to have higher production this year. Again, I talked about the fact that customer demand is strong—that's the positive story—and we've talked about the challenges with supply chain. It is difficult to predict the exact extent, and we're not giving that kind of a number, but it really just comes down to supply chain. The demand is there.

Andrew Bonfield

I think just to add, the only area where obviously we are potentially seeing some slowdown will be probably in construction in China as we look in 2022. Everywhere else, it's really across the board. We're looking at good volume potential growth.

Operator

Your next question comes from the line of Nicole DeBlase with Deutsche Bank. Your line is now open.

Nicole DeBlase

Thanks. Good morning, guys.

Jim Umpleby

Good morning, Nicole.

Andrew Bonfield

Good morning, Nicole.

Nicole DeBlase

Just focusing a little bit on the comments on E&T facing the most price cost headwinds. I guess, when we look forward into 2022, you mentioned a growing backlog there. Have you increased prices in backlog? And I guess, when should we start to see pricing show up and start to be reflected in improving sequential margins within the segment?

Jim Umpleby

Thanks for your question. As I mentioned, we did not increase prices as quickly, so that the first price increase we had for machines didn't apply to E&T just given the market conditions at the time that we were facing in E&T. Certainly the world has changed since then with increasing oil prices and increasing demand, so we have taken price increases since then, and we intend to continue to work to offset input cost.

I'll let Andrew comment in terms of when he may think that will show.

Andrew Bonfield

As we've indicated, obviously as you go through the year price will be pretty even throughout the year. But we do expect obviously as we go through the year, as we start to lap those manufacturing cost increases in the third and fourth quarter, we'll see the benefit of that.

The other thing just always to remember within Energy & Transportation, one, it does have higher short-term incentive compensation, so therefore as a percentage, that was more significant on E&T for the year as we look through in 2021. Obviously, that will no longer be a headwind in 2022. Also, E&T will be the area where we're making investments, particularly in electrification. That will be then going the opposite way. But overall, price now is starting to flow through, and obviously we do need to make sure that we get that to stick and to pull through into 2022.

Jim Umpleby

Again, supply chain constraints will also have an impact, right? If supply chain constraints start to ease, that will help as well.

Operator

Your next question comes from the line of Ross Gilardi with Bank of America. Your line is now open.

Ross Gilardi

Thanks. Good morning, guys.

Jim Umpleby

Good morning, Ross.

Ross Gilardi

Just wondering if you could give a little color on what the \$600 million of restructuring expenses are for. It seems like a big number. Then just on R&D spend, you alluded that it will be up this year. I mean, you've got a lot of exciting customer announcements on zero emissions, and you seem to be taking a pretty customized approach by customer and end market, which I think would be pretty expensive. Are you back above \$2 billion in 2022? Do we get back to prior peak from 2012 of \$2.5 billion in the next couple of years?

Jim Umpleby

Yes. I'll start with restructuring, and then I'll toss it to Andrew.

In terms of restructuring, we task our leaders to continually find ways to improve our competitiveness and the increase that we talked about in 2022 is associated with some specific projects that we have going that we've known about for some time. That really is the reason for that.

In terms of a customized approach, I would say that certainly we're working to meet the unique needs of our customers, but there's a lot of applicability across our products and across our customers for the solutions that we're developing. You shouldn't assume that each one is a one-off solution, although there's a certain amount of uniqueness. If you think about a mine site, different mine sites will have different—some mine sites will have grid availability, but not very many; some will look at hydrogen, some will look at electrification, so there is some variability. However, having said that, a lot of the core technologies that we're developing will be applicable across product lines and across segments. So, it's not a complete customized approach.

I'll let Andrew take it from there.

Andrew Bonfield

Yes. Again, just to add a little bit more color on the \$600 million, the biggest single item there is a noncash item relating to one of those challenged businesses, so therefore will not actually result in a cash outflow but is effectively a part of the reason why it's such a large charge.

On R&D spend, there will be puts and takes as we move into 2022. One, there will be slightly lower short-term incentive compensation; that will help, but obviously that will be a sort of favorability on that. And then, obviously, there will be increased investment. But we don't actually guide on an individual line item basis, but we do expect to continue to see good growth in R&D, and that's important for us as we prioritize those investments. We'll make those investments necessary, and as we've always reminded you, part of the reason why we gave ourselves 300 basis points of flexibility within the margin target was to enable us to make those right sorts of investments to drive long-term profitable growth as we go through a cycle.

Operator

Your next question comes from the line of Tami Zakaria with JP Morgan. Your line is now open.

Tami Zakaria

Good morning. Hello everyone.

Jim Umpleby

Good morning, Tami.

Jennifer Driscoll

Hi Tami.

Tami Zakaria

This is more of a medium- to long-term question. From your dealers' perspective, I believe you mentioned dealer inventory will not be a significant benefit this year, but do you see dealer inventory gradually making its way back to the pre-pandemic levels over time, or has anything structurally changed in their business to rebase it lower now that they're learning to operate with less inventory?

Jim Umpleby

Thanks for your question. Dealer inventory is towards the low end of the normal range, and it's really a function of strong demand and the supply chain challenges that we've discussed this morning. We do expect as the supply chain conditions start to ease that they would get within a normal range, and we typically don't think about it in terms of absolute dollar ranges. If you're thinking about it long term, it's more how many months a dealer has. So, again, dealer inventory will depend on a number of things. Assuming that we can supply everything they need, it will depend upon their view of the future, whatever is going to happen in that year and the next year.

So again, as we mentioned, we don't expect a significant change in dealer inventory this year, but assuming the supply chain conditions improve and based on the strong demand that we're seeing, if that all continues, I would expect over time that dealer inventory would start to come up and get back into more the middle of the normal range.

Operator

Your next question comes from the line of Stephen Volkmann with Jefferies. Your line is now open.

Stephen Volkmann

Great. Thanks for taking my question.

Jim Umpleby

Good morning, Stephen.

Andrew Bonfield

Morning, Stephen.

Stephen Volkmann

I think you mentioned in your comments, Jim, that the infrastructure bill might start to benefit you in the second half of '22 and into '23. I'm wondering if you can just expand on that a little bit. How much of an improvement do you think this could be for you guys? Hopefully, you've had a chance to kind of dig through the bill by now. It's just hard to figure out what your exposure to that could be.

Jim Umpleby

Thanks for your question, and as you say, it is a challenge to figure out the specifics. But, just given the amount of money that's going to be invested and the way that our products are used for infrastructure, we do believe that it will provide a bit of a tailwind for us. If nothing else, one of the things that it does is it provides more certainty to our customers, or if a contractor is trying to decide if in fact, they want to make a capital investment to buy a new machine, if they know there's a high probability of a pipeline of work for several years, they're much more likely to go ahead and pull the trigger and make that capital investment and buy the machine. So, we do expect—again, it takes a while for these things to manifest themselves into projects then to orders to us, but we do believe, again, it will start to impact us towards the end of this year and into next year. The supply chain challenges, hopefully, will ease by then and we'll be able to meet that increased demand, but we're quite positive about the passage of the bill.

Operator

Your next question comes from the line of Courtney Yakavonis with Morgan Stanley. Your line is now open.

Courtney Yakavonis

Hi. Good morning, guys.

Jim Umpleby

Hi Courtney.

Andrew Bonfield

Morning, Courtney.

Courtney Yakavonis

If you could just expand a bit on the comment about pricing being relatively even through the year next year. Was that a comment meant to be about absolute level in pricing, or as we're thinking about it, the year-over-year growth rate, which I think was about 5% to 6% for two of your divisions, and obviously a little bit lower in E&T. Should we be thinking about that growth rate being constant through the year or was that a comment more on the absolute level?

Then, if you can also just expand a little bit on the thought for premium freight. I think you've been talking about freight costs all year, so was this a significant difference in the fourth quarter with respect to premium freight? If you can help us quantify how big of an impact that is relative to just regular freight costs. Thanks.

Andrew Bonfield

Okay. Let me start. Obviously as you look through 2022, although we do see some variability quarter-on-quarter in sales volumes, actually, it's not a huge variability. Actually, whether it's absolute or in percentage terms, it's not going to be a significant real variability change between the two. But as I say, we think we expect it to be pretty even. The reason being, obviously, you start lapping earlier price increases in 2021 as you go through 2022, then you have some long lead time items, which start to benefit. That's part of that mix which is why we think overall it will be pretty even throughout the year. Obviously, that is subject to not needing to put further price increases than we are already planning in 2022 through.

Obviously, E&T, as we say, has been lower, but obviously we expect E&T to catch up with the other segments, so there will be variation between the individual business units as we go through. RI was also slightly less than CI, for example, in 2021.

Just on premium freight, I mean interestingly, if you look at the actual dollar value, freight actually versus material cost is actually normally a very small number. We have seen a really exponential rise in freight costs. A couple of factors. Obviously, as I pointed out, the underlying inflation has been significant. That's well reported and well recognized. Secondly, obviously, we're premium freighting a lot more. That can be premium freighting for parts, some of which we will recover from dealers, but some of it will also be premium freighting for components to keep the factories going. And always there what you're trading off is between the cost of holding the factory open and not working versus actually the cost of that freight. It has increased a lot.

If you remember my comments, I mentioned we thought the margins were about 100 basis points worse than we had originally anticipated for the quarter in absolute terms. Part of that was freight, and part of that was labor and manufacturing inefficiencies. It's probably about half/half. It was probably 50 basis points in the quarter. Obviously, one of the things we'll have to watch and keep an eye on is how do those bottlenecks, particularly on the freight side, unwind as we go through 2022, and also the supply chain bottlenecks as well; that will reduce the level of freight that we would need to use.

Operator

Your next question comes from the line of Joel Tiss with BMO. Your line is now open.

Joel Tiss

Hey guys, how's it going?

Jim Umpleby

Morning, Joel.

Andrew Bonfield

Morning.

Joel Tiss

I know you guys are dancing around a little bit but, I think it would really help us a lot if you could just give us, even how much you fuzz them up, kind of the size of the buckets about dollar-wise how much dealer inventories are below normal—I know you said you don't measure it that way—and how far below your

potential, like your production is, versus kind of normalized levels? Is it \$10 billion? Or \$7 billion? Just any sort of an idea I think would be super helpful for everybody.

Andrew Bonfield

Joel, just on dealer inventory, yes, they are, as we say, at the low end of the range. The reality is given the current constraint environment, it's not going to change in 2022. If I could give you a number, that would be speculating about 2023 and that would really depend on what they expect to see as far as revenues in 2023.

If you were thinking about it from your modeling perspective, it's not really going to be anything probably until at least 2023. Obviously, as we get an idea, we'll be as transparent as we can. But in the current environment it will be purely speculative to give you a number, but they are below where they would normally expect to be. That's really the challenge.

As far as production levels are concerned, the reality, obviously, is we can scale production. We are not running anywhere near capacity. We have plenty of capacity to scale our production up. The question is really is around the supply chain's ability to deliver that. Again, you've seen the increase in the backlog. Backlog has increased by \$9 billion over the year. That is significant. Yes, we could supply—we could produce more, but a lot of those items also are long lead time items, so a lot of that is within Energy & Transportation and within Resource Industries, which generally have a longer lead time anyway. Again, how much of that is production constraints versus real? Revenues, I remind you, did grow 23% in the quarter, so to ramp up much further would be a little bit more challenging.

Jim Umpleby

Again, one of the things that we're doing is we're focusing on meeting—as opposed to rebuilding dealer inventory, we're focused on meeting customer needs, right? That's really what we're prioritizing with our dealers as we deal with the supply chain constraints.

Operator

Your next question comes from the line of Matt Elkott with Cowen. Your line is now open.

Matthew Elkott

Thank you. Good morning. Can you guys talk about the impact on your overall pricing from lower China sales? Just any way to better gauge the potential benefit on pricing.

The other part of my pricing question relates to the broader global construction equipment market. As China demand softens domestically, is there risk that their exports would increase enough to intensify the competitive pricing dynamic in regions outside China?

Jim Umpleby

I'll answer the last part of the question first. We also have the ability to export outside of China, so that applies to us as well. It's not just an issue of others being able to export out of China; we can do the same thing. If, in fact, we have, in the supply chain constrained environment, additional capacity in China does allow us to export from there to meet other demands around the world. We're in that same boat.

I'll let Andrew take the first part of the question.

Andrew Bonfield

Yes. On geo mix, which obviously, as you know, does impact pricing, we did see a small benefit, obviously, as China reduces. But most of it actually, I remind you now, that actually a lot of the machines we sell in China are actually the lower-spec GC and GX machines, so the impact on geo mix was slightly less than you would normally have anticipated in Q4.

Jennifer Driscoll

Operator, we have time for one more question.

Operator

Your final question today comes from the line of Mig Dobre with Baird. Your line is now open.

Mig Dobre

Great. Thanks for fitting me in here at the end.

Andrew, just a clarification maybe. On the manufacturing cost progression here, you had an \$860 million headwind in the fourth quarter, and I believe I heard you saying that you're expecting something similar in Q1. My own guess would have been that this figure would have been higher sequentially, so kind of looking for you to maybe confirm that.

Then, related to this, I'm curious as to how you all are planning your raw material purchases for 2022? I do understand that the comps are going to be different on manufacturing costs in the back half, but I'm curious, given what we're seeing developing in steel markets, is it plausible that you're actually seeing some benefit, outright benefit in terms of year-over-year cost as the year progresses? Thank you.

Andrew Bonfield

Mig, first of all, I remind you that actually fourth quarter from a sales and revenues perspective actually is our highest quarter, so actually sequentially, we go down slightly in Q1 versus Q4. That is why we expect the manufacturing cost increase to slightly moderate but not hugely versus what we saw in Q4.

As with regards to price decreases, input cost decreases, as you remember, we've told you before, we tend to have a three- to six-month lag. We are still in a position where we are still dealing with price increases, some of those lags coming through. Obviously, if steel prices do continue to reduce, that potentially will be a benefit as we move into later this year. We're not relying on that for our expectations for the year. Obviously, we'll see how that pans out, but given that lag, it's a little bit early for us to call to see that coming through. If it does come through this year, it will be very late in the year.

Jennifer Driscoll

Well, thank you, Jim and Andrew, and everybody who joined us today. A replay of our call will be available online later this morning. We'll also post a transcript on our Investor Relations website as soon as it's available. In addition, you'll find a fourth quarter results video with our CFO and an SEC filing with our sales-to-users data. Click on investors.caterpillar.com and then click on Financials to view these materials.

If you have any questions, please reach out to Rob or me. You can reach Rob at rengel_rob@cat.com or me at driscoll_jennifer@cat.com. The Investor Relations general phone number is 309-675-4549.

We hope you enjoy the rest of your day and have a great weekend. I'll turn it back to Emma to conclude our call.

Operator

This concludes today's conference call. Thank you for attending. You may now disconnect.