Caterpillar CEO Fireside Chat at CONEXPO, Moderated by Goldman Sachs
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>> JERRY REVICH: Good morning, everyone. Thank you very much for joining us. I'm Jerry Revich from Goldman Sachs and I'm really excited to have with me here, Jim Umpleby, Chairman and CEO of Caterpillar and Ryan Fiedler, Vice President of Investor Relations. Jim, Ryan, Caterpillar team, thank you very much for joining us. We are going to run this conversation in the Fireside Chat format. Before we dive in, Ryan has a few disclosures on forward-looking statements, as do I.

>> RYAN FIEDLER: Great. Thanks, Jerry. Really appreciate the opportunity to be here today. So, during today's discussions we will make forward-looking statements which are subject to risks and uncertainties. We will also make assumptions that could cause our actual results to be different from the information we are sharing with you. Please refer to our recent SEC filings and the forward-looking statements reminder in our filings for details on factors that individually or in aggregate could cause our actual results to vary materially from our forecast. A detailed discussion of the many factors that we believe may have a material effect on our business on an ongoing basis is contained in our SEC filings. We will also refer to non-GAAP numbers. For reconciliation of any non-GAAP numbers to the appropriate U.S. GAAP numbers, please see the appendix of the earning calls slides. I will turn it back over to you, Jerry.

>> JERRY REVICH: Great. Let me just add to the legal discourse just for fun.
We are required to make certain disclosures and public appearances about Goldman Sachs' relationships with companies that we discuss. The disclosures relate to investment banking relationships, compensation received, or 1% or more ownership. We are prepared to read aloud disclosures for any issue upon request. However, these disclosures are available in our most recent reports available to U.S. clients on our firm portals. Disclosures and updates to these disclosures are also available by ticker on the firm's public website at gs.com/research/hedge.html.
All right, with the lawyers now satisfied, Jim, I'm wondering if we could start the conversation, so six years since you became CEO, the company's doubled its earnings power, delivering sharply higher margins in construction and resources in particular. I'm wondering, to frame the conversation, looking back at the past six years from your seat, you know, what have been the two or three most significant drivers of that performance?

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>> JIM UMPLEBY: Well, thank you, Jerry. It's great to be back here at CONEXPO again after the last three years. But we introduced a new strategy for profitable growth back in 2017. It was based on a number of elements. The framework we used is what we call the operating and execution model, which requires that our leaders look at our business at a much more granular level, understand by product, by market, by application where we are creating shareholder value and where we are not. And by providing that visibility, shining a light on each product, application, and market, we were able to challenge our leaders to improve the financial performance of those products that were underperforming in our view. And I think our team has done a very good job of improving the financial performance on a number of the products and businesses.

There was a few where we concluded that they were not either strategically or financially aligned with where we wanted to go and so we made some divestments there. But, even more importantly, that framework gives us the ability to bias our resources, investments in capital expense and management attention, in those areas that represent the best opportunities for future profitable growth. And I believe that operating and execution model has played a large part in our improved financial performance over the last few years.

We also had three other major pillars in that strategy. One is operational excellence, which is safety, quality, lean and a competitive and flexible cost structure. So we will talk about that for a moment.

We are continually looking for ways to reduce our structural costs, to allow us to be more nimble in the future, to free up resources, to investigate in those areas that represent the best opportunities for future profitable growth. And also to help us deal with changes in business dynamics as well, to make us more nimble in the cycle and improve our performance over time.

Another element there was services. And we talked a lot about services. We established a goal to double services. And we are increasingly confident in our ability to do that. And I'm sure you'll ask some more questions about that later, so I will hold that.

And the last is expanded offerings. Traditionally Caterpillar has been known for having the highest quality, most productive pieces of equipment. Always want to have the best quality, but what we were doing in some cases is we were discounting the most productive piece of equipment to capture what we call life cycle value customers. And you stop and think about the most productive piece of equipment, that is one that can move, let's say, the most material in a 24 hour period. But even the same, even the one customer might decide to have the most productive premium product at the job site where it's operating 24 hours a day, seven days a week. And if you have a machine in the back that operates two hours a day, maybe you don't need that. We were

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discounting those premium products to capture those life cycle value customers. Now what we are doing is we are designing products specifically to capture those life cycle value customers, the GX and GC product lines. And that is all part of the strategy as well.

So, again, really, it's a combination of things. We also now have added sustainability as a focus area to our strategy gear. We can talk more about that as well. But those are the things that have really, primarily led to improved execution over the last few years and I give great credit to the Caterpillar leadership team and all of our employees for what they've accomplished in the last six years.

>> JERRY REVICH: Jim, can you expand the conversation around the different product ranges for different customer segments? Where are we in that journey? Are we complete or is there more to do in terms of additional product categories, where we need to apply that?

>> JIM UMPLEBY: Yeah, I would argue that product development, it's never complete and is a never-ending journey. So we continue to introduce products at the top end of our range. The most productive piece of equipment, and we showing some of those here at the show today. We also continue to introduce products that allow us to capture those life cycle value customers. So, again, it's a never-ending journey on both ends and we continue to invest in.

>> JERRY REVICH: Just to shift gears on your progressive margin framework, just really interesting, right, because if you are in a normal economic environment where you get 5% growth, it implies you have to improve margins by nearly a point. How long can you folks deliver that? You know, presumably we are not talking 15-20 years. So can you just talk about how long is that vision feasible? And, you know, how do we get there?

>> JIM UMPLEBY: So when we introduced our strategy for profitable growth back in 2017, we talked about the fact that our measure of profitable growth is OPACC, which is Operating Profit After Capital Charge. So we really focused on ensuring that we get a return on every dollar of capital that we invest. We understand that we also need to invest for the long-term and we do that as well. Again, we are very capital disciplined.

Having said that, we did establish adjusted operating profit margin targets as you discussed and they are progressive. Meaning that higher levels of sales and revenues, we expect to get higher margins. The way we do that is through increased operating leverage. So if we get more sales and we are in good shape from a manufacturing footprint perspective. So and, certainly, in the short-term, and medium-term we don't

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expect to have to make any kind of a long-term, any capital investments to increase long-term production.

But, again, higher sales and revenues, more operating leverage and higher margins. We did adjust our adjusted operating profit margin targets during the last year or so because, in fact, when we set those margin targets, we were in a low inflationary environment. What we have seen, of course, over the last year or so is much higher inflation, so a relatively larger percentage of our sales increase, came from price as opposed to volume. When a larger percentage comes from price versus volume, you don't get that additional operating leverage to increase margin. So that is why we changed our margin target. But, again, we will look at that continually. But, again, we should get additional operating leverage as we increase volumes which should allow us to increase margins.

>> JERRY REVICH: And, just to shift gears and talk about the products, Jim, obviously, everyone is out here at the show, what are the one or two things that you want people to focus on?

>> JIM UMPLEBY: Well, you know, we have a whole variety of things that we are focused on. We have a technology area where we are really talking about some of the great technologies that are allowing our customers to become more productive, allowing operators to become better operators even if they have less experience. We also have a big focus on services as well. And we are helping our customers with things like remote diagnostics. We have over 1.4 million connected assets now. We are using AI and leveraging that to help our customers avoid unplanned downtime, to maximize availability and to really be more successful. So, again, and we also have some battery-powered prototypes out there which we can talk about. So, again, a lot of exciting product development.

>> JERRY REVICH: Sounds good. And, you know, obviously, pretty active week in the U.S. economy, unfortunately, heading to the show. You know, over the past six years we have seen really high economic volatility. Can you just talk about, from a Caterpillar standpoint, how are you folks approaching, managing the cycle given this seeming dynamic of shorter and more volatile cycles that we have seen over the past six years?

>> JIM UMPLEBY: In answer to your first question, I talked about that competitive and flexible cost structure and how important that is. I believe we have done a much better job in the last few years of being nimble and being able to react more quickly. And really, to put it in perspective, since we introduced the new strategy in 2017 through last year, we produced five to six billion dollars of ME&T free cash flow every year except for 2020 where we had more than a 20% decline in our top line, that was pandemic

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induced because of COVID. But even in that year, even in 2020, we produced $3 billion of ME&T free cash flow even though we lost 20% of our top line. I would argue that many people that look at Caterpillar historically, would have been willing to bet we would not have been able to do that.

So a big part of managing the business, of course, is being more nimble. Really focusing on structural cost, focusing on having as much flexibility in our cost structure as possible, and being able to react quickly. We also have been working very closely with our dealers and we have a new S&OP process where we really are working very hard to stay in touch with what is happening in the marketplace, to ensure not too much product is being built. Again, trying to forecast what is happening. But, again, all those things have played into that improved performance.

>> JERRY REVICH: And, you know, in terms of this economic cycle in particular, pretty unusual to see, you know, weak U.S. housing demand; weak demand for construction equipment in China; and, you know, the industry and you folks seeing such strong demand for your products. Can you just weigh in on your view of this economic cycle given all of these moving pieces?

>> JIM UMPLEBY: I'd be happy too. And we said in our last earnings call that we expect our performance to be better than last year. Last year was a very good year for us and we expect this year to be better both on the top and the bottom line. Just to describe some of the dynamics there. Again, you talked about housing. In North America we expect construction to continue to be strong. Non-residential is improving. And non-residential represents about 75% of construction industry sales and about 25% is residential. So, again, improving non-residential construction activity, a lot of it being driven by healthy backlogs. We expect the various legislation that has passed over the last year to start helping towards the end of the year as well. Residential, although there has been some moderation, it's still at healthy levels, so that is positive as well.

As we think about the other elements of our business in mining, one of the things that we have been talking about for quite some time and predicting is because our customers are displaying capital discipline, more moderate, steady increase in business year over year, that is exactly how it's playing out. We expect that to happen again this year. So, again, business is improving. And I'm sure we will talk about the energy transition in a moment here, but we believe that is a tremendous opportunity for profitable growth for Caterpillar.

If you look at the mining industry, there is high utilization of our equipment. There is a low number of parked trucks, parked mining trucks. And those trucks are aged. So, again, those things combine to make us feel good about what is happening in mining.

Energy and transportation, a lot of positive things happening there. Power Generation, that business continues to have momentum and is improving due to a whole variety of

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factors; but one of them is data centers, which continues to be quite strong. Order rates are quite robust for Solar Turbines and they have a good backlog and orders are strong there as well. And Caterpillar Oil and Gas, also robust orders, that's strong, so Energy and Transportation is improving as well.

You mentioned China. Yes, China, we expect to be lower this year than last year. But we had a couple of very strong years in China in 2020 and 2021. And there was a drop off in 2022 and we expect it to be further weaker this year. China represents 5-10% of our total sales in a given year, depending where you are. So you can imagine that we are towards the lower end of that range today.

Asia Pacific, outside of China, we expect to grow. Europe, Africa and the Middle East - The Middle East is quite active, quite strong, which will off-set some uncertainty in Europe. So, again, all in all, when you step back and look at the individual elements of our business, there is a lot to be positive about. And, again, that is why we expect this year to have a better top and bottom line than last.

>> JERRY REVICH: And, Jim, you mentioned being nimble around moving pieces, you know, obviously question marks around the Silicon Valley Bank, read across. Can you just talk about what sort of sign posts are you folks looking at to think about, hey, should we take a more cautious approach to our production plan and any key variables that you would share with us, that you are monitoring?

>> JIM UMPLEBY: So let me mention CAT Financial first. CAT Financial is very conservatively managed. We only loan money to customers that are buying Caterpillar equipment. Of course, we have that equipment and it's collateral for that loan. We match assets and liability in duration. So that is very important. And, again, it's a very conservatively managed operation.

In terms of looking for sign posts, well, sorry, one more comment about CAT Finance. One of the things we do monitor as a sign post is past dues. And those are near record lows. So, looking at that, that tells us our customers financially are quite healthy. Other sign posts we look at in the business, obviously, lots of conversations with our dealers. We look at order rates. We look at sales to users. We look at quotation activity that is occurring. And, again, everything that we see is very consistent with that landscape that I described for you earlier in terms of what we see in the marketplace. So, again, we watch a lot of things very closely. But, again, past dues near record lows for CAT Finance. Healthy STUs, healthy order rates. We feel good about the business.

>> JERRY REVICH: And, you know, I will add one more data point too, the line of credit that you folks have at CAT Financial covers 150% of your commercial paper borrowings, too.

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>> JIM UMPLEBY: Good point.

>> JERRY REVICH: In terms of the comment you made earlier, Jim, just tweaking at times products where you are starting to see, you know, rising supply, you mentioned earlier. What falls into that category today? What kind of products fit that narrative based on how fast you have been able to scale up supply?

>> JIM UMPLEBY: So, certainly, we talked a lot about the supply chain. And I've been quite reluctant over the last few years to actually predict exactly when things will get solved. Because I have seen a lot of CEOs do that and then have to walk back those words. I'm still going to be cautious here. But we have seen improvements in some areas in the supply chain. Although some pockets of real challenge remain. And so, as an example, you know, semi-conductors, we have seen an improvement there in some areas. And much has been written about the fact that the semi-conductor shortage is over. Well, not really true. On a high end, certainly things have improved, and high end meaning the more sophisticated, latest technology chips that are used in iPads and smartphones and tablets and all the rest. But for the chips we use, we tend to utilize the same pool that auto manufacturers do. That has gotten a bit better, but it's still not what it was pre-pandemic.

If you look at our product line, there are certain products which are still, certainly, supply chain constrained. There are a number of those that are out there. Some of our smaller products. BCP line and larger engines that we build, 3600, those are still, again, supply chained constrained. In other areas the situation has improved. So it's still a mixed bag. But still it's, you know, as mentioned in our last earnings call our sales would have been higher in the fourth quarter and in 2022 if not for the supply chain constraints that we still continue to navigate.

>> JERRY REVICH: Super. Why don't we shift gears and talk about automation. So it's been a really key priority for you folks. Can I trouble you to just to touch on the level of automation adoption that you are seeing, Construction, E&T and what does that product path look like over the next five to ten years in terms of capability set?

>> JIM UMPLEBY: We continue to invest in our products to make them easier to use. Again, everything we do is based on making our customers more successful. And so that is what we are focused on. We have done a number of things over the last few years to make our customers' job easier. One of the things we have talked about is that for a piece of construction equipment, we now can take a relatively inexperienced person, and in a day or two they can be productive, using some of our latest technologies; where in the past you would need an operator that had many, many years of experience to get to that point. And so one of the things we are doing through grade

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control, and there is a whole variety of technologies that we will display in the show, we are making it easier for operators to operate our machines. We are doing things in Energy and Transportation as well with automation, things like our frac fleet optimizer which really optimizes, automatically controls a whole variety of well servicing trailers at a site. And helps our customers reduce fuel and lower their carbon footprint as they produce oil and gas.

Of course, in mining, of course, we have our autonomous mining trucks which we've talked to you a lot about, very excited about that solution. It's making our customers up to 30% more productive compared to the best manned site. And importantly in ten years of autonomous mining truck operation, we've had zero recordable injuries that we are aware of. So, again, very, very pleased at that as well.

We are now at a point in, I believe we are past the tipping point in autonomy for mining. One of the things we worked very hard with our customers on is to reduce the amount of capital that needs to be invested to make autonomy work. Used to be you had to have a large mine, with a lot of trucks to make it pencil. Now, if you have 10-15 trucks, we believe that it warrants the capital investment to put autonomy in.

We are also now starting to expand autonomy and received our first order from a company called Luckstone, a family-owned company for quarry and agg, where we will be putting autonomy in that non-mining application. There is a whole variety of things we are doing in terms of semi-autonomy. You know, you can operate now three or four dozers remotely at the same time. If you get out to our booth, we will let you operate some machines remotely as well. A whole variety of things we are doing to make lives easier for customers.

>> JERRY REVICH: Hope you guys are insured! And you touched on applying Resource technologies into Construction Industries. Is that a big roadmap? Because you guys have been at it for a while. And Resource, you know, the construction process is a little different but to what extent can you leverage the same core technologies?

>> JIM UMPLEBY: Yeah, so, certainly, it is different in that there is more variability in a typical construction site than there is a mine site. But, having said that, as I mentioned earlier, we are starting to apply some of those technologies in Construction Industries to make, certainly, a lot of repeatable tasks where you can use autonomy or semi-autonomy to help customers be more productive. So, yes, there is a natural transition going on there. But even within mining as well we continue to develop autonomy in different products. We now have an autonomous water truck, which, you know, in the MineStar system, senses the level of moisture on the road. It will autonomously put water in the right place. If a tank runs low, it will go back to the filling station and fill itself up. It will give itself its next assignment. Or if there is enough moisture in the road, the truck will park itself. We have autonomous drills as well and

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semi-autonomous dozers. So, again, we are continuing to expand the technology as it makes sense in both RI and now starting in CI as well.

>> JERRY REVICH: And if we could just talk about parts and service, when you rolled out the target, so $28 billion by 2026, $14 billion in 2016, you know, you are up about $8 billion off of that base. Can you just talk about what initiatives or what part of the plan have had an outsized impact on the journey so far? And the visibility that you have on the next leg to get to the full target?

>> JIM UMPLEBY: Yeah, there is a whole variety of things that we are doing. And of course services is one of the main elements of our strategy we introduced back in 2017. Services is everything that we do to help a customer be successful after the initial sale. We are working very closely with our dealers. Again, always with a mind of making our customers more successful. But, done right, increasing services is good for the customer; it's good for the dealer; and it's good for Caterpillar. So it's a whole variety of things that we are doing, everything from connecting assets. And we now have over 1.4 million connected assets, which gives us the ability to leverage AI, to leverage a whole variety of technologies that we continue to develop to make our customers more successful, avoid unplanned downtime, maximize availability, and be more productive. We are utilizing AI. We've got things called PSEs or Prioritized Services Events, which allow our dealers to have leads to help our customers prevent downtime and help them in a very timely manner. We invested a lot in our digital capabilities including in e-Commerce and that is coming along very, very well. The team has done a great job there, and we're making it easier for our customers to buy parts and service from us.

Again, and part of it also is sitting down and with our teams internally, and with the dealers, and a bit of a culture change. You know, our culture is one of we are very, very good at developing the very best products in the world and we have the best distribution in the world, still have that through our dealers, but we're much more purposeful now about thinking about ways we can grow services. So we sit down and talk to our dealers, particularly our highest priority dealers where we think we have the biggest opportunity, what is the biggest opportunity in your territory? Meaning that some customers that own Caterpillar equipment that choose not to get their parts and service from CAT. So there is what do we need to do to capture that business? What does Caterpillar need to do? What do the dealers need to do? And put together a short-term action plans to go capture that business.

So very much focused on by our leadership team and by our dealers. The great news here is that, certainly, with our dealers, our economic interest are aligned and it's good for them. It's good for us. And, again, we always strive to do this in a way that is good for the customers. So it's a win-win-win.

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There have been a lot of activities going on. I could talk for an hour about a lot of the different services initiatives. But, again, a big focus, a big area of commitment.

You know, when we threw out that target by 2026 a few years ago, I think people, a lot of people were quite pessimistic. The reason we picked the big number is we want to get our teams energized and put a big number out there. We weren't sure exactly how we were going to get there and drive for it. Now based on the progress we've made as you mentioned, $22 billion last year, based on the technologies that we're developing based on the traction that we're getting. We're increasingly confident in our ability to meet that target.

>> JERRY REVICH: You know, what has been really interesting is the growth in prioritized service events and other connectivity areas, those are not slowing year two or three after the roll out. Can you just talk about the momentum you are seeing from customers that, you know, have tried the product and, you know, how much visibility do you have to get to the targets by essentially having seen this journey for other customers that are later in the adoption phase?

>> JIM UMPLEBY: Yeah, we think we have just scratched the surface in a lot of these technologies. We are very excited about what is possible. Everything is like, you know, we have what is called CAT Central, which is an app which makes it easier for customers to do business. If you are -- one of the things that we are really focused on is our small and retail customers as well and becoming easier to do business with. Traditionally dealers have done excellent job servicing our bigger customers, our mining customers, the big construction customers, and oil and gas customers. But oftentimes those smaller customers it has been more difficult sometimes to serve them. Now we are starting to leverage technology to make it easier for us to serve those customers and make them more successful.

If you are a small customer and let's say you have 12 machines or whatever and you bought your 13th machine. Now you buy one that has a QR code in the machine. We have an app that you can scan that QR code. And it allows you to purchase the right part to get the support from the dealer. Our customers don't have time, especially if you are a small customer, you are doing -- a lot of times the small contractor, you are doing everything yourself and are very, very busy. So by putting this technology in the hands of our customers, we and our dealer are much more easier to do business with. So that is part of the goal.

>> JERRY REVICH: I need that QR code for my printer, Jim.

>> JIM UMPLEBY: Yeah, I know.

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>> JERRY REVICH: Can we talk about the spread between your dealers that are farthest along on the digital journey versus the laggards and, you know, what sort of incentives are you folks putting in to drive, you know, call it the bottom quartile adoption group?

>> JIM UMPLEBY: As they say, you know, the good news about growing service is our economic interests are aligned. We actually yesterday here at the show, we had an award ceremony for those dealers that have produced the most services growth over the last few years. And it was like an academy award. And we gave shows and gave awards and I gave a couple of awards and my colleagues did as well. So, again, those kinds of events help. Again, face-to-face conversations. But, again, our dealers are very much supportive of what it is we are trying to do. And as is the case with any group or organization, some are further along in some areas than others, and the same within Caterpillar as well. We are further along in some groups than we are with others but we are all focused on the goal and making good traction and making good progress which is borne out by our numbers.

>> JERRY REVICH: Can we talk about alternative energy? So you folks had a really interesting roll out at Tucson, a 793 mining truck, battery-electric prototype. Can you just talk to us about the value proposition for customers? You know, what do the economics look like versus diesel based on where we stand today?

>> JIM UMPLEBY: Let me step back for a moment and talk a bit about the energy transition. So and everybody knows I believe what the forecasts are for the amount of electric vehicles that is going on the road, that are forecasted to be on the road over the next few years and all the other elements of the energy transition. We firmly believe that the energy transition is increasing Caterpillar's total addressable market. If you stop and think about the commodities that need to be produced to support the energy transition and the infrastructure investments that need to occur, Caterpillar is very well positioned to benefit from that. As an example, an average automobile like an electric vehicle versus an internal combustion engine automobile takes six times as many minerals for the EV as the internal combustion engine. Well, obviously, we produce the products that allows our mining customers to produce that increased commodity.

And even if you don't believe all the forecasts from automobile companies, and give it a haircut by 10, 20, 30, 40%, it's still a tremendous increase in commodity demand that we are very well positioned to satisfy. Stop and think about the fact that we have, in our view, the best autonomous solutions and feel quite strongly about that. And our customers are voting with their purchase orders on that and demonstrating that. We are very well positioned to benefit from that.

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Other parts of the business as well. Construction Industries and thinking of the infrastructure and investments that need to occur to install the solar panels, the transmission lines, the charging stations. Again, a great opportunity there. And as more renewables are added to the grid, that does create grid instability issues, which creates opportunities for our Energy and Transportation portfolio in both our reciprocating engines and our gas turbines, which burn a whole variety of fuels. It can burn natural gas, bio fuels, hydrogen blends and all the rest. So, again, we believe the energy transition represents an outstanding opportunity for future profitable growth.

In terms of batteries and machines, I believe that adoption of batteries versus diesel engines will vary pretty dramatically by product, by geography, by application. And right now the biggest demand or pull we are getting for battery-powered machines is from our mining customers. Our largest mining, really the largest mining customers in the world are very focused on reducing their carbon footprint. So we are working very closely with them. And as you mentioned last November, we were very excited to have a demonstration of a prototype of a large battery-powered mining truck for our customers and it was fully loaded - 37 miles per hour, fully loaded on a flat, demonstrated that a fully loaded truck going up a 10-12 degree grade basically demonstrated diesel performance in that battery-powered prototype.

And one of the things that we are excited about is this is a real change. Stop and think about a mining site. It's not just about putting batteries in the machine. The mine site has to change dramatically as well.

We are uniquely positioned because of our Energy and Transportation portfolio, microgrids and recip engines and gas turbines, all the other elements that we have there to help our customers electrify the mine site if you will. Because a battery in a fully loaded mining truck will run down in maybe 90 minutes. Battery technology is always changing, but that is close to where we are now. So you have to figure out a way to dynamically charge the truck in the mine site and that requires a whole different set up by our mining customers. We are very committed to help them with that.

In Construction, again, I believe the rate of adoption of battery-powered machines will vary significantly by geographic area and also by application. One could envision a situation where in Western Europe or in North America, in a certain city, a city may dictate that for a city project or even altogether, we don't want any diesel engines in the city whether it's an automobile or piece of construction equipment or anything else. Our strategy is to have the products ready and so we have some prototypes here at the show today to support those customers if they need those battery-powered products.

However, we are not walking away from all of our other customers and we will continue to invest and support our customers that have products with diesel engines around the world. What happens in Manhattan and what happens in Asia, Africa, or even Kansas could be very, very different just based on the application. If one is building a road in the middle of nowhere, across Nebraska, as an example, it's not easy

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to charge a machine. So what do you do when the battery runs out? Do you have a fast charge with the diesel engine which kind of negates the purpose or do you have an extra machine? It's a complicated issue. So I do believe that the transition particularly in Construction is going to be a relatively long road. I think this is going to take a long time before a significant percentage of our machines that are shipped have batteries on them. But, again, we will be ready. It's really based on customer pull. When our customers want a battery-powered machine, we will have it for them. If they want a diesel-powered machine, we will have it for them.

But one of the things that is really important as well is we are producing machines now with different technologies, different transmissions, different engines that lower our customer's carbon footprint. Some products we are introducing can reduce fuel burn by 19 and 20%, which has a corresponding positive impact on greenhouse gas emissions as well. It's not just about batteries and machines for internal combustion engine machines. We are very focused on improving efficiency and reducing emissions as well.

>> JERRY REVICH: What is interesting if we got to a fracking site that has autonomous solutions on it. We are going to see CAT employees there running those operations. Is that where mining with battery electric trucks is headed? You mentioned dynamically charging, that sounds like a pretty complex process.

>> JIM UMPLEBY: Well, we already have Caterpillar employees and dealer employees on site and on autonomous solutions. So we have over 500 mining trucks operating the world and there are Caterpillar employees at those sites helping the customer be successful. Yes, as you mentioned, we now have, you know, both in oil and gas, we have Caterpillar whether its Solar Turbines employees or CAT Oil and Gas helping customers be more successful. So certainly as the technical solutions be more complex and transitions from just being about a product, built in the factory to shipping, the things that have to happen at the site on an ongoing basis, there is an increased need for us to become more involved. And, again, our goal is to increase the value that we provide to our customers every single day. If we do that, if we are successful in adding that additional value, that makes us more of a partner with our customers as opposed to just a supplier, which I think is a good thing for us long-term. So, again, if we do our jobs right, I think it's very good for our competitive position as well.

>> JERRY REVICH: So just to put the pieces together, yes, diesel engines are profitable parts of the part stream. But, on the flip side, in the battery electric environment we are going to have more ability to add value on the site infrastructure and support side, that sounds like more than off-sets the potential parts headwind of not having the diesel engines in the field.

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>> JIM UMPLEBY: Well, we think there is a lot of opportunities around battery-powered machines. One thing to keep in mind is the difference, say, between a Caterpillar machine and an automobile is the number of hours it runs. Think about the undercarriage wearing out. The undercarriage is still going to wear out. We still have tools in the dirt that are going to wear out. It's a different situation than an automobile. And one of the things to keep in mind, again, is think about the number of machines that Caterpillar has around the world globally. It's a very large number. And think about just from a timeline perspective as I mentioned, we expect, particularly in Construction, that timeline can be quite extended. Yes, again, our strategy is to have the battery-powered products ready for those customers that want them along with traditional machines that have better fuel efficiency with lower emissions.

But, having said that, this is a process that is going to take a long time in my view. But, again, our strategy is, it's always difficult to predict how quickly these things will evolve. But our strategy is to have the products ready, and the customers will decide how quickly this transition occurs.

>> JERRY REVICH: So Jim, if we shift gears to talk about earlier, you know, we spoke about the operating and execution business model and, you know, you folks to get the margins where you are, as you said, you exited some areas. How sizable are the opportunities in front of us to do that continued type of calling of that portfolio or, you know, are we passed the low-hanging fruit?

>> JIM UMPLEBY: I would say that we continually evaluate the financial performance of our existing portfolio. And, importantly, think about, again, how do we bias our investment of our resources to those areas that represent the best opportunity for future profitable growth, which is one of the reasons we are so focused on services as an example.

So, you know, where, again, we are continually evaluating our product line. You know, we made some decisions in the last couple of years. We will continue to evaluate the product line, so that is how I will answer that question. There is always opportunity.

>> JERRY REVICH: And from a capital allocation standpoint, really strong balance sheet, strong cash return to shareholders. You know, both on M&A and a sizable M&A. Is there any scenario that you can think of where we are sitting here in the next CONEXPO and, you know, you folks have found a meaningful new M&A opportunity and, if so, what are the key parameters that we should be thinking about?

>> JIM UMPLEBY: Yeah. So we continually challenge our leaders to look for M&A opportunities in their various areas. And what you have seen over the last few years is relatively small compared to the past. Acquisitions that provide technologies as an

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example, think of CarbonPoint solutions, Tangent, we did buy Weir Oil and Gas, that we bought that, in my view, a very good time in the cycle, which has allowed us to expand our Oil and Gas portfolio and also help our customers lower their carbon footprint through e-Frac and some other issues.

So I will never rule anything out. But if your question is are we out there elephant hunting? The answer is no. But if the right opportunity, obviously if the right opportunity presents itself where we could get a return on the premium that we pay on the business, we would be open to it. But we are not out looking for it. Having a strong balance sheet, you know, certainly, is very beneficial as we went into COVID. Recall the early days of COVID where a lot of companies were figuring out, all right, how do I secure funding to ensure I meet payroll. I did not have any sleepless nights. We have a strong balance sheet and that's not a bad thing to have during periods of uncertainty.

>> JERRY REVICH: And you didn't get caught with a variable rate either.

>> JIM UMPLEBY: We didn't, that's correct.

>> JERRY REVICH: Can we talk about Resources? And you mentioned steady recovery from here. Wondering if you can just rank order for us which regions or commodities are the strongest in that mix?

>> JIM UMPLEBY: Stop and think about, for us, it's generally copper, iron ore, gold, coal. Those are some of the commodities that are the most important for us. Again, if we stop and think about the energy transition and the amount of commodities that need to be produced, from where...if you look at the commodity production today and you look at EV projections and the aspirations of Net Zero in 2050, the investments that will need to be made in infrastructure and in commodities is very, very big numbers. Again, even if a certain percentage of that occurs, we think we are well positioned for that.

As I say right now commodity prices are continuing to be supportive of continued investment by our customers. They are, both, our Oil and Gas customers and our mining customers, are just plain capital disciplined and I think that is really good thing for us. In many areas, again, we are still dealing with supply chain challenges. And when demand spikes up and then comes down very quickly in a couple of years, that makes it very tough for our customers and makes it very tough for us. I'm really encouraged that the scenario is playing out much as we have predicted for the last few years, that moderate increase year on year as we produce more products for our mining customers.

>> JERRY REVICH: And, you know, with mining trucks, you know, the bigger the truck the higher the Caterpillar market share. And, you know, over the past couple of years,

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we have seen demand for smaller trucks just by virtue of where commodity demand has come from. Any opportunities for you folks to sharpen the pencil on smaller mining trucks to essentially improve where that share position is for the small products specifically?

>> JIM UMPLEBY: Yeah. So we continually evaluate our competitive position and where we should invest dollars. And, again, it's something we are always looking at. And we do feel good about our competitive position in mining. Again, a lot has to do with our autonomous solution and we feel very good about that. Again, we continue to evaluate the breadth of our product portfolio and where we think the market is moving and we will make investments based on that.

>> JERRY REVICH: And, Jim, can we go back to a comment you made earlier in terms of being able to reduce the upfront investment for automation in mining and so you can run, you know, a 15 truck fleet? Can you expand on how you folks were able to do that? And is there one way to continually drive that lower?

>> JIM UMPLEBY: Well, it's something we continually focus on. Again, a lot of it has to do with technology, us getting better at this, our customers getting better at this, changes in technology. But, again, part of it is just this experience curve we have been on. By learning more about the different elements and components that need to go in the autonomous mining site, being able to get down that domestic price, down that cost curve, so now it's 10-15 trucks where it makes sense to make that capital investment.

Again, stop and think about a potential 30% productivity increase. It's pretty unbelievable. And then you add that to the fact that zero injuries in ten years.

One of the things we can think about battery-powered trucks, it goes hand in hand with autonomy because I don't think you can really divorce the two. One of the things that we believe will not only will our energy and transportation portfolio help our competitive position as our mining customers start to adopt battery-powered trucks, but our autonomous solution is very important as well.

You mentioned earlier the complexity of that electrified mine site and autonomy, of course, needs to be a part of that. So having the best autonomous technology along with battery technology we believe will provide a tremendous competitive advantage for us as our mining customers electrify their fleets.

>> JERRY REVICH: And in terms of the adoption curve that you see ahead for Construction Industries moving towards automation, how long until you know the level of adoption is similar to where the mining industry is today and, you know, your developed construction equipment markets based on product path?

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>> JIM UMPLEBY: Well, again, I think, you know, in Construction there is a lot more variability both in the task that the Construction customer is performing and also in what happens at the site. So I think it will be more a situation of as opposed to a complete construction site that is autonomous. Certainly, that is a long way away. But having autonomy built into certain products for certain repeatable tasks, whether it's putting the pad for a wind turbulence and is pretty repeatable and things like that, I believe that is shorter term. A complete autonomous site I think is farther away in Construction just because of the variability of the different projects.

>> JERRY REVICH: And, you know, if we could shift gears to talk about within Construction Industries the end market outlook in terms of regions where you are most positive and hearing some interesting things about accelerating investment in the Middle East. And wondering if you can just comment as you look at the global heat map, what does that look like for you?

>> JIM UMPLEBY: You bet. Starting with North America, again, we feel good about non-residential in North America. We think the business has been improving and will continue to improve. A lot of that is driven by infrastructure projects. And we expect later this year to see the positive impact of the legislation that's that been passed based on that. Residential is moderating a bit, but still at healthy levels. And, again, as I mentioned earlier, 75% of our Construction Industries business globally is non-residential versus 25% residential.

In the Middle East there is a lot of activity. Of course, oil prices are relatively elevated. There is a lot of economic activity. And that is driving a lot of construction activity and a lot of infrastructure in the Middle East that is quite strong.

And Latin America flat, maybe slightly down this year. Still early to tell.

China, as I mentioned earlier, we do expect it to be slower this year. A couple strong years in 2020, 2021 and down in 2022. Down below 2019 levels in 2023 in China in the greater than 10-ton excavator industry. But outside of China in Asia, good activity, good construction activity, that is expected to be quite healthy. I think those are the major areas, I think.

>> JERRY REVICH: Super. And then, you know, your competitors are enviable of how much you folks can rack up supply and actually rebuild some dealer inventories in 2022 using the global manufacturing base. I'm wondering as you think about dealer inventories over the course of this year and the guidance that you laid out, are you factoring in any production adjustments to make sure we don't build dealer inventories, again, now that we are at a healthy level, or, you know, are there pockets where demand is actually incrementally accelerating now that supply improved?

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>> JIM UMPLEBY: Correct. So the dealers are independent businesses and make their own decisions about their inventory. Having said that, we do work very closely with our dealers and we all try to predict what is happening with demand. There are still certain products where our dealers wish they had more inventory. So we still have certain demand, excuse me, supply constrained products where we wish and they wish they had higher inventory. So I'm expecting some of that.

Some other areas they feel that they are at a relatively healthy level. So, again, it's a dynamic situation, but one that we really focus on. I think and, again, right now as we sit here, business looks good, as I mentioned. The macro level drivers are positive and expect a better, higher top line and bottom line than last.

>> JERRY REVICH: Super. Jim, Ryan, the Caterpillar team, thank you very much for the time and insights.

>> JIM UMPLEBY: Thank you, Jerry. Appreciate your time.

>> JERRY REVICH: Thank you.

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