VALE S/A (VALE3)
Vale Day 2024
December 3rd, 2024
Presentation Transcript

Thiago Lofiego: Hello, everyone. My name is Thiago Lofiego, I'm the Head of Investor Relations at Vale. It's a pleasure welcome you to the 2024 Vale Day. Today marks the beginning of a new cycle at Vale. It's the first Vale Day under Gustavo Pimenta's leadership. At Vale, we're overexcited about the prospects for the company and today we hope to be able to send a clear message towards the path we are taking.

On a quick note, about logistics of the event, the event format will be a little different versus prior years. We will go through the presentation followed by the Q&A session, which will be led by my colleague, Luciana Oliveti. After the Q&A concludes, I invite you all to stay for half an hour with us when you have the opportunity to talk to our board members and to our executives. By the way, I would like to thank our Chairman of the Board, Daniel Stieler, and all of the other board members that are present here today. Your support is greatly appreciated.

So back to our agenda. Today, our presenting executives will be Gustavo Pimenta, our CEO; Rogério Nogueira, our Chief Commercial Officer; Carlos Medeiros, our Chief Operating Officer; Shaun Usmar, CEO of VBM; Murilo Muller, our Interim CFO; and Marcelo Bacci, our new CFO.

Having said that, I would like to pass the floor to Gustavo.
Gustavo Pimenta: Thank you, Thiago. Good morning, everyone. It's a pleasure for me to be here today. This is my first Vale Day as Vale's CEO. I've been here before in the capacity of CFO, so the story is not that new to me. It's a lot newer for Marcelo, who joined 24 hours ago, and will present a little bit about his views on the sector.

I would like to just take a moment to thank the board and all Vale's employees for the tremendous support since my first day as I joined as Vale's CEO. So, I greatly appreciate that. I would like to start with safety. Safety is a core value for Vale. So let me just get there. So safety is our core value. Here we have some of our progress to date. The injury frequency rate that we have achieved this year, 1.1 is industry benchmark. We have achieved and evolved a lot under the leadership of Carlos in the last several years and we are performing a lot better these days. There's still a lot of work to be done to continue to make Vale a safer company. We are also working very hard on a commitment that we had highlighted with investors five year ago, which is the dam de-characterization program. To-date, we have de-characterized or eliminated 53% of upstream dams. In this year particularly, we eliminated one of the two remaining that we call high risk dams, the ones classified in level three. Few years ago, we had four in level three, now we have just one and we' working to remove that one next year as well. It's a very important commitment and we feel good about the opportunity to get there.

So before we get into our achievements for 2024 and the strategy going forward, just wanted to show a video about dam de-characterization program.

[Dam Management Video]

So, let's take a quick look into our achievements in 2024 and then most of the presentation is going to be about the future. Just to highlight, we came here and talked to investors last year and shared our key priorities for 2024. And I'm very happy to see that we delivered on most of them, if not everything that we had promised. So Mariana settlement. This was a very important milestone for us. We are able to achieve a fair, complete, inclusive agreement in Brazil in the right jurisdiction, which is Brazil, homologated by the Brazilian Supreme Court. So, it's an important milestone of the year.

We're also able to continue to advance on the Brumadinho reparation. We are now 73% complete and I'll talk later about the progress that we started to see from the ESG rating agencies in terms of recognizing these evolutions. On the business side, remember, last year, we talked about three large projects in iron ore, Vargem Grande, Capanema and +20, together, 50 million tonnes of incremental capacity, very low capital intensity, very low cost, so improves the portfolio of Vale and we promise to have Vargem Grande coming online this year, we did. We promised Capanema to start commissioning next year and we anticipated. So today, we are announcing the commissioning of Capanema ahead of schedule on time, ahead of schedule and on budget. And we are also able to achieve completion on VBM, a very important project to lower the overall cost base of our nickel business. Shaun will cover that.

We also closed two important partnerships. Yesterday, we announced the closing of Minas-Rio, the 15% acquisition of Minas-Rio from Anglo in Brazil, giving us access to high quality iron ore that will be critical for energy transition and our positioning with our clients. That give us access, as I said, to 3.8 million tonnes of iron ore. But the beauty of it is that it allows us together with Anglo to build a platform in the region of about 50 million tonnes in total of high-quality iron ore where Vale has an option to buy an incremental 15% stake. So, we could see us getting close to 15 million tonnes of high-grade iron ore once we close that transaction towards early 2030s.

Asset review, progressing super well. We're very happy with the work that Mark initiated and now, now Shaun is taking the lead on. Operations, I remember a few years ago when I joined as CFO, one of the key concerns that investors had was about our inability to deliver on the guidance and the challenges that we had with our operations post. This year we had a guidance of 310 million to 320 million tonnes in iron ore. We have revised that guidance to 320 million to 330 million tonnes. And today we are saying, and we are highlighting our forecast, our expectations that to close the year at 328 million tonnes, at the top end of that guidance.

Cost coming down, our guidance for the year was $21.5 to $23. We are delivering around $22 and VBM cost also coming in line with what we had forecasted. In fact, for copper even lower than our initial expectation. So, it's been a very good year, which I think sets the stage for what we are going to do going forward.

So, one of the things when I joined as CEO, one of the questions I've got from investors is, okay, what are we going to do? Are we going to have any change versus the strategy that the company has been pursuing? And together with the team, we decided to launch, and this is the first time we talk about that publicly, to launch a vision for what is that Vale, that we as a team want to deliver, call it by 2030, which is a timeframe that we think it's a realistic timeframe. And we are focusing on three major elements for that strategy. The first one is portfolio. What portfolio do we want to have, call it, five years from now, 2030, that we think it's a resilient, competitive portfolio irrespectively of where we are in the cycle – in the commodity cycle. So, we'll talk about that later in terms of high-grade iron ore, a lot more customer oriented, we want to grow copper, right? We have an enormous endowment, so Shaun will cover that.

The second lever is in terms of the evolution of the culture transformation of Vale. So since Brumadinho, we have embarked in an enormous transformation to make the company safer, more reliable and many of the gaps that we identified at the time, we want to continue to evolve. We think there is more to do to make the company – to make a great company in that time horizon. And the focus in this new cycle will be to add this mindset of being a very performance-oriented company, very – driven towards results, very focused on talent development, very focused on innovation. We think we can do a lot more in terms of innovating it internally at Vale.

And as a result, being a trusted partner, right, Vale has been historically considered and been admired, especially in Brazil, and we lost that over the years. And I think there is a space for us to regain here with society that it's very important for us to reposition the company so that you hear all the time us talking about institutional relationships. It's broader than that. It's not only having good government relationship, but it's about how society perceive us in terms of leaving a positive legacy for society.

So quickly in each one of them, we'll be talking in more detail when Rogério comes up, but we are very focused on the strategy of having a portfolio of high-quality iron ore, but with flexibility. This is, I think, one element that we want to highlight this year, having a broader flexible portfolio that can be successful in any period of the cycles. Today, clients are not willing to pay for high quality. We have to succeed, and we believe we can do that. A lot more customer focus, we'll talk about the Mega Hubs and some initiatives of us getting closer to the client, which I think and we think it's the next wave of opportunities in our space, the industry will start to de-commoditize and we believe we have an opportunity here to get closer and work solutions with our clients.

Also accelerating the copper growth. This is super important for us. We have an enormous endowment, Shaun will cover that within his slides. So here is the guidance that we just highlighted. So we are guiding now for 2025 between 325 million to 335 million tonnes this year, delivering at 328 million tonnes, keeping 2026 as we talked last year, so no change in 2026. And we are just in the agglomerated offering to be between 60 million and 70 million tonnes. And Rogério will talk about it.

The Mega Hubs, just quickly, I talked about Minas-Rio already. Mega Hub is a concept of working closely with our clients because we believe the future of the steel is going to be in a way where clients migrate to regions where they have access to cheaper or cheap fuel, but also decarbonized fuel. So initially natural gas, then hydrogen. And this has very been beneficial for Vale, because that transition will require high-grade iron ore, which is what we do.

So this year, we announced the partnership in Oman, a highly strategic asset for us to create a concentration facility of 12 million tonnes. And this is going to create a series of opportunities for us to serve our clients in the Middle East and also in Asia. I won't go into it because Shaun is going to cover, but there is an enormous amount of potential for us to accelerate the copper business and we will be laser focused as a team to make sure we can accelerate, bring those volumes to the market at the right level of returns at the right time, because we believe there is a very unique opportunity here for us to leverage an infrastructure that is already there and can absorb those volumes.

With that, what we expected, we expect for copper is to be able to – today we are producing 350 kilotons. We are guiding by 2030, and Shaun will cover that in more detail to get close to 500 kilotons and then doubling by – within the next decade. So, the second one is in terms of the evolution of our culture narrative and performance. So, we want to continue to be a reference and continue to evolve on being a reference in safety and operational excellence. So operational excellence is a fundamental pillar of our strategy and we'll be highly focused on that. We don't think there is a – we will be able to create the company that we want to create by 2030 without a focus on operational excellence. But we will add an incremental focus on competitiveness. We need to get more competitive, and we need to drive down cost. That's going to be one of our key priorities. And innovation, as I said before, is going to help to achieve that.

So, with that, this is what we are guiding in terms of C1, which is the main metric that we all care and follow in our industry. So, we are closing 2024 around $22 at the low end of our initial guidance range. Next year, we are guiding $1 lower at $20.5 to $22 and we are guiding to come below $20 by 2026 and between $18 and $19.5 by 2030 in nominal terms. So those figures are in nominal terms. So we think this is a – and Murilo – I won't go into the key levers here. Murilo will cover some of it how we're going to deliver on those figures.

We are also very focused on what else can we do with our own operations, right? So, we move a lot of materials. So, we are seeing a great amount of opportunities for us to work in circularity, to leverage eventually to reprocess tailings to process some of our waste. This year, for example, we are doing almost 10 million tonnes out of those sources and we expected to get to 30 million tonnes by 2030. This is cheaper, quicker access to market, easier to license, more environmentally friendly. So, it checks all the boxes, and this is one of our key priorities as we go along.

The third one, which is the institutional relationship as we all hear, right? So, we are working very hard. I've been spending a lot of my time since I joined, talking to people, talking to government, federal being – regional, being all the governments that we have relationship. And the more I talk to them, the more I realize that we do have a lot more in common and a lot more points of convergence than otherwise. So, we have to continue to work towards that, be closer, continue to show to society that we can leave a positive legacy and that's going to be fundamental for us to gain and to regain or to enhance that license to operate, which is in our space is so critical for us to continue to grow.

So here is just – I won't go into all these details here. Those are some of the elements we've been working over the years on that agenda, being in terms of decarbonizing our solutions, being in terms of promoting a more diverse workforce. All the work we do with indigenous people, it's been outstanding, the progress we've done there and the work, you know, we do in the Amazon in the environmental protection.

So with that, I just want to call one quick video that took over what we are doing from the biodiversity standpoint.

[Environment Video]

So just before I hand it over to Rogério, just to cover this table quickly here, it's just to highlight that the work that the team has been doing over the last several years is paying off. I mean, we're starting to see some recognition of improvements if you look at across all of the ESG ratings, we've improved everything and we are back to, in some cases, better to even where we were in 2018. We are not done. There is a lot of work to be done and we'll cover that in more detail as we go along in the presentation. But it's good to see some progress there.

None of that is possible with the right team in place and I'm highly confident that we have that. And I'm highly confident we have, if not the best, one of the best teams of the industry. So, with that, I would like to invite Rogério, our Chief Commercial Officer, who was last week confirmed by our board as our Chief Commercial Officer. Many of you know him for many years. I'm very happy to have Rogério joining our team, and he'll talk about our commercial efforts. Please, Rogério.

Rogério Nogueira: Well, thank you, Gustavo. Good morning. It's a great pleasure to be here with you today. And today I'm going to be covering the commercial aspects and the business development aspects of our ferrous business. But I'd like to talk in three chapters. First, I'd like to mention about demand fundamentals, then to go through short-term strategy and then long-term strategy. Starting with our long-term or our demand fundamentals, I'd like to share with you our views on steel demand and production over the next two years. We do expect and we do estimate that steel demand and production is going to grow primarily based on populational growth, urbanization and the increase in intensity of steel usage, especially in emerging economies. However, we expect also, as most of you probably do, that Chinese steel production is going to decline. Our view is that decline will come gradually and that it will be offset by increasing steel production in other regions and countries such as the Middle East, India and Southeast Asia. But when we translate, this is steel demand back into the seaborne iron ore. What we believe in, what we see is that there will be a stable seaborne for iron ore demand at the level of 1.55 billion tonnes. And when we look into supply in order to – in order for supply to match this demand of 1.55 billion tonnes of iron ore, we believe that an incentive price above $90 per tonne would be required.

Let's take this step by step. If we look at the numbers of 2024, we see there that there will be a depletion in the industry of over 300 million tonnes. This is based on traditional numbers of depleting rates of about 3%. And also, some operating costs, which have costs above $90 per tonne should get out of the market. That actually accounts for that 150 million tonnes that we show there. Conversely, some projects which are already ongoing, new projects which have incentive price below $90 per tonne, will come to the market.

In the end, the balance, as you can see from the last two bars, is that there will be a gap of about 50 million tonnes and in order for that gap to be closed and supply to match demand. We see that, as I just said, that we need to have an incentive price higher than $90 per tonne. So that's our general view of the market. But now looking into how we see the market more broadly, looking from a medium- to long-term and then a short- to medium-term.

Let me start on this Phase 2 here, which is the decarbonization trend. We do believe that this trend towards decarbonization is irreversible. It might take a little bit more time.

The pace might change, but the direction is very clear. All the clients that we talk to, all the players, all the stakeholders that we talk to, this is a clear direction for everybody. So what we, in Vale, are trying to do is to position ourselves to be not only the pioneers, but to be the promoters of a very competitive supply chain. And I'll talk a little bit more about it, which will entail that we look very carefully in our portfolio and redesign it.

So for that kind of new steelmaking routes, one would need very high iron ore quality. It will need to change the production process from the integrated steel mills to the direct production process. I'll get into more detail, but we are clear that we will need to work carefully in our product portfolio and the way we do business in order to be creating this very competitive supply chain. Short- to medium-term, we do believe, just based on the information that we provided that the market is going to get better. But that's not to say that it won't have volatility.

We do believe, as we have seen over the past years, the market has its ups and downs, and we need to work on our portfolio optimization in response to our client needs. This seems a bit obvious but let me cover this a little bit in more detail because it changes fundamentally the way we operate.

So let me get into this, talking about the short-term strategy. And here I would like to call your attention to this very simple chart, which might even insult your intelligence here. But I wanted to convey a simple message. Now for those of you who have been following Vale for many years, you have always heard us talking about we are a high-grade iron ore producer and that's going to be our focus. Indeed, we are a producer of high-grade iron ore. We have a great endowment. But the point is, we'd also like to add that we are a flexible iron ore producer.

As Gustavo Pimenta was saying, in many times in the industry, the industry is not really requiring or not paying for the high-quality iron ore that we are delivering. Just take this moment right now, okay? The steel mills are operating with a very low margin. Coal prices are very low. They're seeking for lower cost products. So, when we look back into Vale, say, okay, we probably we would be much better off if we were offering lower quality products, less costly. And with that, we would be able to produce higher volumes, because that has a lot of implications in our mine plan. For example, reducing strip ratios and our ability to increase production volumes would actually increase.

So important to say that we are a high-grade iron ore producer. But we want to operate adjusting our product offering to our client needs, which is a very important message compared to where we were previously. But why we can do that? I just want to highlight two aspects of why we believe we can do that. First, and I don't want to go into the detail of this very technical slide, but the point is that we have the right products. And again, if you look into this diagram, which is a diagram that shows alumina and silica, which are together with FAS, the two most important contaminants in the industry, you can see the Y distribution, chemical distribution of our products with the index spectrum.

With the very wide distribution what we can do is blend our products to produce one single blend that falls within the sweet spot for the iron ore producer. And that sweet spot may change over time. But the point is, we can do that because we have the right products. And if you look into all the other players in the industry, they're not able to do it, because of the combination of their ores at least they are not able to do it at a larger scale as we can do it.

But not only that, we also have the most sophisticated supply chain in the industry. We have many mining sites in Brazil. We have three ports. We have concentration facilities in Brazil. We have concentration facilities in China. We just recently, again, as Pimenta was just talking… we are starting, actually launching a new concentration plant in the Middle East. We have blending centers in China, we have blending centers in Malaysia, we have blending centers in the Middle East. We have just inaugurated the blending center in Europe.

Then we have a very different vessel size that can distribute our products throughout the world. By the way, and we also serve different geographies. So, we can distribute our products around the world. We can concentrate, we can agglomerate, we can blend. Important to say that with that, we can produce products, which are tailor made to specific clients without creating the complexity at the mine site. So not having any impact in terms of production complexity.

Now let's talk briefly about the longer-term, okay. So first, we want to take a quick look on the left-hand side here. So just depicting what a typical mining and still comprehensive mine and steel supply chain looks like. Especially on the steelmaking, what you see is that under the current integrated process, which includes coke ovens sintering plants, blast furnaces, all the production processes are combined at a single location. And the reason for that is that specifically coal, which is a very high energy density, raw material, can travel economically around the globe.

But as we get into a decarbonized world and we change fuse and we change reductants to methane, natural gas, and then later to green hydrogen, this is not the case. And what we see and we're actually working with that, and I can give you some examples, is a decoupling of the supply chain in mining and steelmaking supply chain. With the whole upstream of the steelmaking, migrating to regions in which you have competitive natural gas and then competitive green hydrogen based on competitive renewable energy, and this is what we're seeing.

By the way, important to note, this is a complete redesign of the supply chain. And the question is, why is this important for Vale? It is important for us because we are in this game, working very hard to be the pioneers in order to establish the most competitive supply chain across the globe. As I've said, we have the quality of the iron ores, we have the technology for agglomeration, and we believe that we have the relationships, and we have been the first ones to move into that space to create the infrastructure required to promote those hubs.

I'll just give you a few examples of what I'm talking about. We have engaged over the past couple of years with more than 50 clients around the globe. We have right now agreements signed for studies in five countries. So, we're looking at what we call Mega Hubs, which are large industrial complexes that are brought together to produce an intermediate product called metallics that will then be used in the steel – in the downstream of the steelmaking.

As of today, we have seven advanced studies with customers, with two of them prepared for foreign investment decision in 2025. We have worked on our feed supply so that we can offer our clients fee guarantee. And as of now, we have already locked more than 30 million tonnes of DR feed for the next decade. So that our clients feel completely secure, that they will have security of supply when they take their decisions to migrate their production process to the Middle East.

In this case, I mentioned Middle East, because this is one of the largest regions, but we are also looking into others: Brazil, North Africa, the United States. Okay. We're not only doing this, but also trying to do this and working to develop this under an asset light model, because those reconfiguration of the supply chain, they're quite intensive in capital. But the idea that we have, which is actually illustrated on the right-hand side of this slide is that we will have concentration plants, which would be operated by partners based on the flow sheet design that we would actually sign off. We will have this our new technology for agglomeration, which is the briquetting, by the way, which has been very, very successful. I'm not going to get a lot of details right now. Much more competitive than pellets in many dimensions.

And we'll have our clients and even investors investing in the DRI, HBI plants. The final outcome is that we expect to create in the future, a liquid market for HBI in replacement of a market for iron ore. And just a side comment, I think Medeiros might touch on this. But we're just now had converted our pellet old plant 1 this week, we're actually producing the first industrial trial. So, we – not industrial trial, we have just completed the first batch of briquettes for direct reduction, which are going to be sent to clients for industrial trial. I have done many, many baskets test, small industrial trials, but now we have the chance to do a real industrial trial based on our converted pellet plant in Brazil. So, in the short-term, we might have some news for you.

Well, based on the pace of decarbonization, we have also adjusted our expectation, our estimate for pellets and briquettes production. So as Gustavo has just talked about, we're working now by 2030 with 60 to 70 million tonnes of agglomerates.

And last but not least, just to summarize some of the key messages from this presentation. As I said in the beginning, we truly believe that iron ore supply will require prices above $90 per tonne to match demand, as we just looked at. Secondly, that we will focus on our portfolio supply chain, to make it flexible with the idea of maximizing value. Yes, quality is important. We have the highest quality in the industry, but the focus will be to maximize value and actually respond to our client needs simultaneously.

Third, we're partnering with clients, supporting them on this journey of decarbonization for the iron making and we're doing this through the Mega Hubs strategy. And we firmly believe that we're being the pioneers in promoting those kind of solutions. We're providing our clients with the security that they can migrate, that they will have high quality feed supplied by us, and that we are developing the most competitive supply chain for the decarbonization in the world.

Thank you. Now I pass the word to Carlos Medeiros.

Carlos Medeiros:
Good morning. As usual, I'll start my presentation with safety. Now I'll start. So, increasingly, safety is the foundation of operational excellence, as you have heard me saying before. And increasingly, we observe this positive correlation between keeping a safe work environment and high levels of productivity and reliability. Over the years, Vale has been improving its safety performance and our current metrics confirm this trend as you can see.

Our near miss report, or N3 as we say, increased 420% year-on-year and 80% of these reports have already been addressed. So, this confirms that we are building a psychologically safe work environment. We also monitor process safety. These relates to events that could lead to multiple fatalities or significant financial losses. The occurrence of such events has reduced at 46% year-on-year. Finally, we also monitor the amount of lost time accidents, and it also has reduced at 33% over the last two years.

You will now watch a short video showing how safety impacts operational excellence.

[Operational excellence video]

Carlos Medeiros:
One of the critical elements of our maintenance strategy is the asset monitoring centers. We have established 14 of these centers monitoring variables such as pressure, temperatures, vibration, speeds of nearly 300,000 points. All this data points are analyzed by an AI algorithm, which informs our people, our team, whenever an intervention is necessary. Our maintenance team will then schedule a maintenance activity based on the asset condition. And the end result, as you can see, is that we are spending less and less time year-on-year on corrective maintenance, which is more expensive.

So, the early detection of potential failures allows us to optimize our maintenance plans. An interesting example of how maintenance plans can be optimized, it can be seen at the S11D. So, we have leveraged all the information produced by our asset monitoring centers to learn that the technical limits of our long-distance conveyor maintenance could be expanded. So, the maintenance frequency was shifted from every four weeks to every five weeks.

So, the second step was then to review and optimize the maintenance of our truckless systems, and the final step was to synchronize both maintenance of our long-distance conveyors with two of our truckless systems, leading to improve the indicators of utilization, availability, productivity, which on its turn resulted in increased iron ore production as you can see on the slide.

Now changing subject, I will talk now about projects, and we will watch a short video showcasing the progress that we have made at Capanema and also at S11D project.

[Projects video]

Carlos Medeiros: So, before I talk specifically about Capanema and the S11D expansion project, I would like to bring a quick update on the briquettes and Vargem Grande. As Rogério mentioned, we have just produced our first commercial batch of direct reduction briquettes. So, this plant was started up at the end of last year, and the entire year of 2024 has been on the commissioning. And now, we have just started the production phase.

Vargem Grande is ramping-up well and we expect to produce about 1 million tonnes this year. Now, about Capanema, we have positive news regarding Capanema as the hot commissioning has already started ahead of schedule, as mentioned previously by

Gustavo, and it will probably last until March next year and it will be followed by the start-up and ramp-up.

And the S11D project +20 is progressing according to schedule, and we expect its completion by the end of 2026. Our operations are being nurtured to become more circular, more decarbonized and more focused on our customer needs. And talking about circularity, this year, Vale expects to produce 10 million tonnes, thanks to its innovative waste-to-value program.

By 2030, this program should yield about 30 million tonnes per year, reprocessing tailings and waste. Significant reprocessing opportunities can be seen at our Gelado dam, which holds approximately 100 million tonnes of ore. And also at Serrinha waste pile that will also contribute with quality material. Moreover, working with circularity also generates valuable by-products such as tailings blocks that can be used in the civil construction, sand that can be used for concrete and also casting and also clay materials that can be used as raw inputs for the cement industry.

Talking about decarbonization, Vale has the lowest carbon intensity in the industry, and in spite of that, we have been working on the following decarbonization initiatives. In our mines, we're working in electric and ethanol powered trucks. So, the idea is to retrofit our fleet so our engines can be ethanol-powered. So, this technology is being developed. The technology for electric trucks is also being developed. And this will be a quite helpful solution for mines located in urban areas. At our railways, we have been carrying out pilot tests so we can increase the content of biodiesel up to 25% by 2028.

And finally, in our palletizing plants, we're devising solutions that will allow the reduction of anthracite consumption.

In terms of being more aligned with our customer needs, one way of doing it is by increasing the amount of direct reduction pellet feed. In order to do that, we need to technologically retrofit some of our processing plants. This is why in the beginning of this year, we launched this Orion Project and we chose Conceição II to be our alpha site. This project will be concluded there by the end of next year.

So, the concept here is to link the mines to our processing plants. So, as soon as the run-of-mine physical and chemical compositions are known, the plants will adjust automatically, leading to a more stable process and better output. Although we are halfway through this project in our alpha site, you can see the results in the graph on your right-hand side. This project will be rolled out to all of our processing plants that have flotation circuits.

And to wrap up, all the work we have been doing in terms of operational excellence is bearing fruits, as you can see. We have a couple of very strategic projects that will help Vale not only to expand its production volume, but also to improve quality.

And finally, there are a number of ongoing initiatives that will take Vale operations performance to the next level.

Thank you. I'll hand over now to Shaun.

Vale S.A.
Praia de Botafogo, 186, 19th floor, Botafogo
22.250-145 Rio de Janeiro RJ Brazil
www.vale.com vale.ri@vale.com

Shaun Usmar: Good morning. It's a privilege to be with you today on my first Vale Day. And just to share with you a little bit about Vale Base Metals. I want to start with the context, and I've been here two months, and I think each of us as leaders have a moment in time that we occupy in a much longer story. So, in my moments, the context matters. We've come through where Gustavo and Eduardo had the vision to understand that this business is intrinsically valuable and that really it needed to be given the focus and the mandate to unlock that value for our stakeholders and for our shareholders that it wasn't being realized within the business.

As a CEO coming in usually, that would also mean spending a lot of time getting to grips with the operations and trying to understand the diagnosis of where we are and where we're headed. I've got the privilege of being able to piggyback on all the work you've seen from Mark Cutifani with the asset review, with people like Tony O'Neill and many others who've done great work in identifying the gaps and the potential that the business has and our ability to make it really competitive.

So, I view this moment really from a lens of a need for us to achieve that potential. In many ways, I see it as a Jerry Maguire moment. It's a “show me the money” moment. We've all heard about the need and the opportunity that arises. I think the assurance I can give you from myself, as well as my executive team is that we understand that that potential, it's time to deliver.

And so, our focus is very much on optimizing the operations along the lines of the asset review, delivering on the asset endowments there through productivities, cost improvements, the NPV and free cash flows per share growing over time, appreciating the optionality that exists, optimizing risks while making sure we don't take our eye off the critical risks within the business and truly cherishing our social license, which enables us to be able to work across the business. We have to be exceptional in that. So, in this moment, we have a lot of work to do. I will share with you how we are viewing that. I've set the organization up even in the first couple of weeks, very much with a focus on trying to break down silos and bring together, drive accountability to the operations, and make sure that we have a very commercial execution-oriented focus. And we'll continue to build on that and update the market in the periods ahead.

We have a spoil of riches here. The potential is great, but it means we've also got not only a duty to deliver on the many opportunities to improve our productivities and cost positions, but we also really have work to do from a capital allocation point of view. We cannot spend our way to prosperity. So, we have to be as lean and cost-oriented as possible in order for us to realize the potential.

And the context matters here in our chosen markets. Everybody wants copper. Those of you who watch the markets, our best way to be able to add value for Vale and Vale Base Metals is not to run out in this moment and pay a lot of money through M&A. The premiums have been substantial. It's not easy for us to be able to demonstrate value there.

In time, once we've demonstrated our execution track record, I believe we should be in a position to be a partner of choice, and we'll always continue to look at that. We have to unlock this endowment.

And in nickel, we have a substantial, it's like, just to put this in context, it's really mid-single digits of our capital is going to a pure nickel business. The rest is polymetallic. So, about 50% by revenue, so 57%, 58% is nickel in our polymetallic operations, the rest being copper. You'll see about 30% or so, 25%, 30% of our polymetallics are in deep copper. And we have these very large endowments, which I think are incredible, strategic opportunities in great locations. And I'll touch on more on this in the future.

Safety. I think Carlos summed it up well. Safe operations are productive operations, and we've made some great progress, but we've got more work to do in order to improve on this position. Our focus here is on not only the culture within the organization, but also our critical control verifications to identify these risks and to continue to improve.

With the asset work that's been done, here is just a few of the highlights that you can see, I mean, we're in the early stages of the upswing on delivery and I can say to you, even looking at the reports just early yesterday, we have seen consecutive historic records in places like Salobo, which is very gratifying to see and that we've got further to go. But just in the last year, Salobo ore milled and tonnes, both there in Sudbury, a 13% increase.

In Sossego, 25% improvement in truck utilization to ensure that we're more productive and can fill the mill at 13 million tonnes, which we've done for the last five or six months. And then in Voisey's Bay, a nearly doubling and you saw the announcement that went out this morning on achieving completion of the project and commissioning. We are going to be ramping-up through 2026, but there's more work to do, but there's significant improvements already demonstrated.

The key for us to earn our license to continue from a shareholder and from a stakeholder point of view is demonstrating our competitiveness. And so, I'll start off with our cornerstone. It's Salobo, it's a beautiful operation. This is a high-class problem to have, but you'll see that this mine is open in almost every direction except up. We have far more of an endowment here with future drilling, which can unlock additional resources. We have about 7 million tonnes of reserves with contained copper and 3 million tonnes of measurement indicated with more to come. But that's not our constraint from a value and cash flow point of view to unlock in the short term.

Our focus firstly is on delivering the many identified opportunities, making sure that we are as productive with the shovels and the productivities at the mine. We have to continue to make sure that we're feeding the plant and so from the crusher to the stockpiles with a constant and optimized feed, and we're demonstrating some of that.

And then to make sure that when we move beyond that, we can actually unlock the next constraint, which is capacity. It's not the ore body. And you'll see in the medium term, the identified opportunities Mark had previously spoken about, first, coarse particle flotation. We see about a 25% throughput opportunity with the implementation of that. You'll see that equates to up to 30,000 tonnes or more per annum. That also has impacts on reducing our energy consumption and water consumption. We've tested this in labs to-date and we know there's amenability and we'll be updating you and pursuing this aggressively in the months and years ahead.

The other is expanding the plant at Salobo 3. Team calls it Salobo 3.5, is another 20,000 tonnes over there. And then, that will enable us to be able to pursue more on the resource potential.

And you'll see the Sossego, obviously, a more mature camp. I'll touch on this in a minute, but really the opportunity is for us to be more productive and more selective with our equipments in order to be able to feed the mill and then bridge to Bacaba, where we're seeing delays in the licensing. At the moment, we've actually just had the public hearings in October, which have proceeded well. We hope to be able to achieve our construction license in the first half of next year, which should see us on track to do our pre-strip in 2027 and be able to bring that into production in 2028. There is a lot more opportunity, which I'll touch on in a minute. That's another 60,000 tonnes of copper over an eight or nine-year life of mine. And the focus there is very much on filling the mill with more to come.

The Sudbury, the fill the mill theme, you can see that this year, we're about 4 million tonnes. We're projected to take that up by about 75% over the next few years. A lot of this is also complemented by improving the productivities and development rates in these mature mines in Sudbury. There's a lot more optionality in these orebodies, but we have to be productive to unlock it and ensure the cost structure is as good as it can be.

Over and above, we are also focusing on smaller near-term deposits like the Stobie pit that adds additional tonnes. And what this means when you put it together with these adjustments, including reducing cut-off grades and improving the mills that's being wasted – or sorry, the tonnes wasted from our operations is that we're relying less on third-party feed. We're at about 70% of own feed and within the next couple of years, we'll see that in excess of 90%.

The Clarabelle mill is the focus for debottlenecking. You can see as we do that it's about a 40% reduction in unit cost of the byproducts and about 30% more copper. Really touched on this, it's a milestone we will be celebrating with the team after an incredible amount of work over a period of time. And the important thing here, as we ramp-up through 2026, as we've replaced now the depleted ore void with these two mines, is another 45,000 tonnes of nickel, 20,000 tonnes of copper, 2,600 tonnes of cobalt, and importantly a 15% reduction in unit costs as we reach nameplate.

So, this is our journey on nickel. I can say to you that we're on track for delivering guidance this year. You'll see that in 2025. We're looking at modest growth. As we ramp up these projects, including on Onça Puma's second furnace, you'll see that that brings us up to the 175,000 tonnes to 210,000 tonnes within 2026. I want to stress that this is about ensuring, though, that we're as agile as possible in a sector, particularly in nickel, that is roughly 50% into the cost curve, and when you put in capital at this stage, perhaps as much as 70% or more. We have the orebodies and the potential to make sure we can endure those weak points of the cycle and with these long-life opportunities to be able to participate beyond that. We are not pursuing tonnes at any sake though. So, even the maximization of downstream utilization, that's going to be contingent on making sure we can make money in doing so. We have the capacity, we have the optionality.

And then on copper, everybody else copper, we're on track to produce at – in line with guidance this year, both we've lowered cost guidance recently at the last quarter and you'll see some modest growth over a period here with both offsetting declines and grade in places like Salobo. And as we see depletion at Sossego, the focus on some of the new – not only the delivery of the asset review opportunities, but some of these regional endowments that I'll touch on in a minute. And so that's another 70,000 tonnes to 120,000 tonnes and you'll see Alemão being referenced there. We're looking at that in about the 2030 timeframe, a very small contribution from that. There's a lot more to go, but you'll see that brings us in that up to perhaps 0.5 million tonnes in that 2030 timeframe.

We've got a sector, particularly in copper, that is being defined by supply side struggles. Things – grades are going down, costs have been increasing, and the sector has really struggled to deliver. We have orebodies that are in a very concentrated area with a long history and our opportunity is to see what we can do. We already have the mineral endowments and the drilling, we have a workforce and a capability. What can we do to buck that trend and accelerate? And in partnership with the Iron Ore team, the focus is very much on seeing what we can do in order to do that.

First some context, though, when you actually look at that endowments and compare it to some of the Andean benchmarks, we're about nearly 40% above the industry average grade when we start looking at over 20 million tonnes of contained copper. And I think the context is important here, because consider for a minute, we are not at 5,000 meters up in the Andes. We have infrastructure. We're not next to glaciers. We have ports, rails and mine infrastructure. There's a lot of potential for us to unlock. And importantly, you'll see that as we look at where our existing hubs are with the Sossego and Salobo, there's more opportunity with orebodies that we have and big endowments, some which we've had and known for 20-plus years, to be able to unlock and focus on that.

In the interest of time, you can see some of these that we will be focusing on over this period. And you can see below the mine potential as well as the significant tonnes of contained copper that we will focus on. And then importantly, I gave you the 2030 time horizon and what that means. But as we focus on this in partnership, importantly, we're bringing a brief commercial lens to the focus on projects and projects execution. The idea is that we don't have to do everything ourselves. We can partner in some areas. There's a number of small deposits already that we're focusing on where we can see, we can do things faster and for lower capital and at a better return. And we look to update you more in the future, but you'll see there we can unlock and demonstrate this in the next decade. It's about 700,000 tonnes of copper before we do anything inorganic and that come from businesses that have been very active organically. We first have to earn our license in order to do that, but that's the potential that we're identifying today.

We have to do more though. We have a significant capital allocation challenge. The – with that endowment, it means you really have to not focus as much on 2030 plus or 30-year plus optionality with our limited exploration budgets. We already spend exploration dollars in line with the sector just on a percentage of revenue basis. But we really have to prioritize with a view to getting those tonnes out the ground these nearer cash flow, high probability opportunities. It's that it's unlocking some of the processing potential that we have beyond in order to when we get those orebodies to make sure that we can actually process them. And partnering with Gustavo and the team on accelerating our licensing.

I'm pretty much on time. That's our story. We – our focus just to leave you where we end off. We all know that we have a huge endowments. And I can say to you personally, two months in, I actually feel a sense of pride already in this management team. There is this sense of energy and moments in time that I think everybody carries. It's like a duty. And it's been really quite intoxicating. We've got a great board that we're partnering with as part of that. I encourage you to look at their backgrounds. It's really quite rare and my time with the mine general managers, they too see this as a moment in time and particularly as we push more accountability down to the sites, they realize that this is their moment. They have something to prove, and I have something to prove to you as well.

So I think, as we get together, you've seen our numbers. I re-emphasize this is really a copper story and a polymetallic story with the nickel business that has a huge endowment and really over time, really needs to be competitive and ensure we can participate in the future when we see more of those spikes.

And I look forward to updating you more in the future. It's – this is only the beginning. So thank you.

Murilo Muller: Good morning, everyone. I'm Murilo Muller. I've been the acting CFO for the last two months here at Vale. So in my subject here, I'm going to cover the cost-efficiency program that were put in place and how this is affecting our C1 cash cost, our Capex, and also, I'm going to touch on our long-term debt in the end of the presentation. So let me start here with the fixed spending. This is the same chart we brought last year, here at Vale Day, and that's the way we managed our cost, the way we see it, which is the best proxy for our C1 cash cost.

The good news here is that we spot on, the fixed expenses for 2024. We promised and we delivered the $6.1 billion in fixed spending. And that was achieved despite all the new assets and additional expenditures we have done to increase production along 2024. And that was possible, because of our cost-efficiency programs. We have several initiatives in place. Our teams are very focused on that. There are some – many of them. I would like to highlight the purchase specification program, where we are going through a process that we're checking the specs of our products. We are going through the details. If we need all that technicality sometimes that we're requiring from our suppliers, from the technical view, from that item, and we're seeing if that's really necessary. Together with that, we have the de-bureaucratization process that we're also working to simplify the organization. Of course, when we do that, we are always focused on not jeopardizing quality and security. Of course, those are the most critical things for Vale.

On this slide here, I just want to bring what is not a surprise to anyone in this room, how hard inflation has hit our industry. Our competitors have faced severe increases in their C1 cash cost in the last five years. They raised between 40% and 60% on their C1 cash cost, and for Vale, there was no difference. As you can see in this right-hand side, we were hit harder by inflation, especially after 2019. We had to reconfigure our assets, and accordingly, we have what we call the new way to operate. That's a requirement that we did have to put in place that changed the configuration and how we would have our cost profile. So, the good news, I think Carlos will cover part of that here. We're getting used to that. So, we're improving on those processes. We're putting in place and now because we're more or have a more stabilized operation, we can be more focused on how we can improve them, and how can we turn them more productive and effective.

And we start seeing that in 2024, our C1 cash cost has stabilized. So, we're going to end the year at around $22, the average for the year. We have seen in Q3 and we present that to the market when we release our results. It was the first time in many years where we could see our costs reducing year-over-year. And that's the trend that we're forecasting and we include in our budgets, in our strategic planning for the next years. And that's why we are very confident that by 2026, we can have C1 cost below $20 per tonne. Of course, we have to bridge the gap between 2024 and 2026 and 2025, we are targeting the low range of $20.5. Of course, it could be a little bit higher. That's why putting here the range up to almost $22 per tonne.

But most importantly, we are also aiming for 2030, and that's what we're bringing here in the right- hand side here, where we have, as a goal as part of our strategic planning, to have our C1 cost at $18 to $19.5 per tonne on nominal terms, which is – it's very important. Because, here, we are taking into consideration the inflation, the depletion to arrive at that number. And again, we're very confident that's totally possible. How are we going to get there? We're going to keep the efficiency programs that we have in place. We have been much more focused on a culture of performance that Gustavo is bringing. Now, Marcelo Bacci is arriving. We are going to be much more strongly working on performance.

Combined with that, we also have higher volumes and mix. Carlos has just shown here how we're working towards getting Capanema in place, S11D +20. All those new mines, they come with lower costs, a better mix, that's going to improve our capacity to have a very competitive cost. So, when we add both the efficiency program, higher volumes, they are more than enough to offset inflation that we are expecting for this period and the aging of our operation. At that patamar of cost, we will be very competitive compared to any other player in the market.

Now going through the cycle, for all our products, we see progress during 2025. Iron ore, I just mentioned C1 where we will be. But it's very important also to realize what we're doing in terms of all-in. For 2025, we can cut all-in by up to $4 per tonne based on a better portfolio mix. Rogério has explained part of that. And even for 2026, we could go as low as $50 per tonne in all-in for the year. In terms of copper, we have been making progress. We can see the asset review initiatives, they are in place, but also, we're going to have the lower grades at Salobo happening in 2025, which will offset part of the asset review initiatives that we will put in place.

For 2026, we're projecting - not only us, but the market is projecting - lower gold prices. That's where I see the all-in costs slightly increasing. We also face the depletion of Sossego that's going to kick in, but that's going to temporarily increase our all-in. In 2028, we're going to have Bacaba starting operations, and we're going to go back to becoming very productive in copper. In all-in, we are gradually improving and consistently improving our all-in in the next two years. All the asset review initiatives, we are already seeing benefits coming from that. Shaun went through the process that he has in mind to improve that. So, we believe we can have a very competitive business in nickel when we get to very competitive costs as well.

So going through CapEx, we are still keeping the target of $6.5 billion for the next few years. And of course, because of the cost-efficiency programs, we also expect to benefit on that. So, although we're going to give $6.5 billion, we believe we can do more with the same amounts that we are planning to spend. The balance between business is around what we announced last year, but of course we're going to be very focused on which are the accretive growth opportunities that will come and that will be part of the decisions we're going to take. We want very accretive projects to be part of our growth as part of our CapEx.

Now the cash disbursements, that we have already shown in Q3, I'm not going to spend time on that. You can see that, of course, in 2025, we have a more significant disbursement, but later that's going to move and it's going to become more natural the disbursements that we have to spend in the next few years. So finally, before I pass over to Bacci, I want to bring our current expanded net debt targets. We have just analyzed our study reviewing what it should be. We presented and was approved by our board. We're going to keep our expanded net debt target range between $10 billion and $20 billion. We still believe that the sweet spot for Vale is $15 billion. And of course, any additional cash that brings that target net debt lower will probably be returned to shareholders. We'll be committed with capital discipline and be very focused on our execution.

So that's what I had to bring today. I'd like to pass the floor over to Marcelo Bacci. Welcome, Marcelo, our new CFO.

Marcelo Feriozzi Bacci: Thank you, Murilo. Well, guys, I've been CFO of Vale for 24 hours now, so I have plenty of experience and it's quite a challenge to be here. But I do have 20 years of experience in related industries or similar industries and commodities in general, both in the sugar industry and most recently in the pulp industry. And what I know about these industries is that they are all cyclical, like what you see here in this chart, and they all respond very – in a very intense way - to changes in supply and demand. And there's only one way to protect the company or any company from this cyclicality, which is to keep the costs low to be in the first quartile of the cost curve, which is where Vale is.

And with all the initiatives that my colleagues showed, we want to intimately go further in that direction and to protect the company even more from the cycles that most likely will continue to happen. And this is going to be done with the intense application of technology, but with also a change in the mindset about the performance and the incentive framework that we're going to put together for the company for the coming year. So, this is why – one of the reasons why I joined the company and I'm very excited about what we're going to be able to do in the coming years.

Also, another very important thing for any industry, which is commodity related but also intensive in capital, is how we allocate the capital of the company. And for me, this is about balance. We need to balance three objectives in terms of capital allocation. We need to invest in order to reduce the costs and also to grow the operations of the companies like – of the company like my colleagues showed before. We have plans to reduce costs that require investments and also to grow production that also require investments. But we also need to provide the adequate returns, cash returns to the shareholders. And we need to keep the balance sheet strong in order to make the company strong through the cycles. To protect the company through the cycles, we need to have a balance sheet that provides that kind of security.

So, what we need to do in terms of capital allocation is to balance these three objectives all the time. And sometimes you need to favor one, some other times you need to favor the other, but through the cycles, we need to have a balanced approach. Another reason why I'm joining the company, and I'm very excited about what we can build together here is the fact that it seems that Vale is highly undervalued in two different dimensions, I think. The first one is compared to peers in terms of the multiples, but also when you look at the performance of the company, the normalized capacity that we have to generate cash and generate free cash flow yields, this is, in my view, incompatible with the valuation that we have today.

So, we need to build a way to close this gap. And the way to close this gap, in our view, in my view, and I'm happy to see that this view is shared by my new colleagues, is to improve the competitiveness of the company; to keep delivering consistently the guidances that we have been providing to the market; to come up with projects with accretive growth, projects that provide returns, important returns to all of us; to have a healthy shareholder remuneration, and again, the balance between the three objectives; and to restore the right ESG credentials. We've been working very hard and the team that came before me was already working very hard to rebuild the reputation of the company in terms of ESG credentials. I think with those five things in place in a consistent way, we're going to be able to build our way back to a more constructive valuation in the market.

So, with that, I turn back to Gustavo for his final remarks.

Gustavo Pimenta: Thank you. Thanks, Marcelo. We are thrilled to have you joining this journey, and we're excited to have you with the team. We are going to now start together the Q&A. Before getting into the Q&A, I just wanted to wrap up with the key messages that you heard from us today. The first one is on safety. We don't believe we'll be able to build the company that we want to build either by 2030 or by Vale 100, if we are not a safe company. And yes, we've done a lot in the last several years, but there is still a lot of work that we have to continue to do. I think one element that this team has embraced and will be highly focused, you've heard this a lot during the presentation today, is about competitiveness.

We've lost and we appreciated the lost competitiveness over the last years for several reasons. And we will be extremely focused without jeopardizing safety and the right things that we have to do. But we see a lot of opportunities to drive down costs, become more competitive across all the commodities that we have. In iron ore, there is a slight shift or maybe a shift from what we were talking before that Rogério since he joined us, he's been very vocal in promoting. I had the chance to meet probably more than 20 clients with him in the last two months, and this is loud and clear from our clients. They all want to transition away from fossil, but it will take time. They have no margin, returns are tight, but they will go. So, the long-term trajectory is there, but we have to make sure we have a resilient portfolio for the current market momentum. And I think he was able to show we have it.

Copper, I think everybody loves copper to Shaun's point. And I think the unique advantage of Vale vis-à-vis our competitors is the endowment that we have. Nobody has it. It's very difficult today to go to the market and do acquisitions in copper. The multiples are above 10 times EBITDA, very hard for us to do anything with the multiples that we have, but we do have a very unique endowment and we'll be pushing that agenda because that's where we think we can create value. All of that showing to society, to stakeholders that we will leave a positive legacy. So, I'm very excited with the future that we have ahead of us. It's a simple direction, but it's bold. And you're going to hear from this team, and I was very happy to say that in the beginning, our consistent deliver on everything we tell you guys, we will be laser focused to not overwhelm with a lot of initiatives, but just the ones that will make this company better. And you should hold us accountable for that.

With that, I'll just want to have Luciana to help us organize the Q&A here. So, we will gather as a team and Luciana from our IR team will help us lead the Q&A. Thank you.

Q&A SECTION

Luciana Oliveti: Thank you once again, Gustavo, and thank you, everyone, for joining us today. It's a pleasure to be here with you. We will start now our Q&A session. We'll take one question per person. If time allows us, we will do another round. For the Q&A, just raise your hand and please say your name and the company that you are representing. As soon as we have the stage set, I would like to invite back to the stage our executives, our CEO, Gustavo Pimenta; and our executives, Carlos Medeiros, Rogério Nogueira, and Shaun Usmar, please. Just one minute more, guys, and then we will get started.

Well, Carlos?

Carlos F. de Alba: Yeah. Good morning. Thank you very much. Carlos Alba with Morgan Stanley. So, my question has to do with trying to reconcile free cash flow generation and net debt – expanded net debt, and return to shareholders. In the update – estimates update, you provided some reference to free cash flow yield in 2030. I wanted to see if you can bring it back to the more present years. And how do you see free cash flow evolving in 2025, maybe 2026, given all the cash outflows that need to be paying now that you've settled Mariana and you still have Brumadinho, who knows what will happen with the UK and the Netherlands lawsuits that are still pending, and you're tying it to the R$ 16.5 billion net debt – expanded net debt that you have. How do you – what investors can realistically expect in terms of dividends and share buybacks potentially? Thank you.

Gustavo Pimenta: Can you hear me? Maybe I can take the lead and if Murilo wants to add. Yeah, we wanted to give this normalized version because the disbursements are temporary, right? They'll be gone and as you saw in the flow that they will be reduced over time. Certainly, in the next two years, it's a lot tighter and will be dependent on where the iron ore price is, to be simple. We see no risk at our minimum dividend for sure. We feel very good about it, especially because a lot of the outflows is to actually reduce the net debt position, the expanded net debt position. So, we are amortizing debt as we go along. Right? So that creates, capacity in our balance sheet even if we leverage at some point in time.

So, I don't want to anticipate anything. I think it's going to be dependent on potential market, if the market is better, we'll certainly do. I think we've been showing over the years how consistent and how focused we are on remunerating our shareholders. We've bought back 18% of our share count. And so, we will be laser focused on potential opportunities to remunerate our shareholders incrementally to the dividend policy that we have, which is already very healthy with 50% payout, right? But I would say, yes, the next two years are tighter, but afterwards things clear and we should be back to Bacci's point, this is a company that can be producing low-double-digit free cash flow in an iron ore market of $100. So, we think it's very attractive.

Luciana Oliveti: Thank you. Next question from Daniel Sasson.

Daniel Sasson (Itau BBA): Thank you so much for the presentation. My question goes to Rogério. Rogério, it's a pleasure to just see you there. You're probably one of the most knowledgeable guys in the commercial side of the iron ore industry. So, there are few people more better suited for that position than you are. But my question is, being with Vale for many years, what's your – what do you think that as a commercial director you could do differently? What do you want your legacy sort of to be? You mentioned the rethinking of the value over volume strategy, not that quality is not important for you, but maybe flexibility is more interesting for you to create value to shareholders, right? So, what do you think that Vale's role in this transitioning economy to a greener world is, and how do you think you can contribute with that? Thank you.

Rogério Nogueira: Well, thank you, Daniel. Yes, as I just said, I think the goal that I was entrusted by the board, as in the mandate, would be to maximize value while maintaining a customer-centric approach. Yes, that in order to do that, we need to be much closer to our clients. We would need to understand much better their needs, their strategies, and to work with them to define solutions, be it in the short term, as we're talking, that they might have been facing situations or fluctuations in their needs, trying to adjust our product portfolio and that's the flexibility they were talking about. We're not abandoning the idea of being a high grade. We believe this is the direction, but how do we play that in an industry that fluctuates, that has different needs in the short term. And also understanding their strategies in the long term, because, as I've said, decarbonization for us is the trend. It is irreversible. And our goal is to create extremely competitive supply chains. So, the most competitive supply chains in the industry and promoting those solutions with them so that they can play together with us and that they can be really competitive and then we can maximize value for Vale. So, ultimately, it is about, in my view, maximizing value for Vale and for our clients simultaneously by working together.

Luciana Oliveti: So, next question from Timna Tanners, please.

Timna Beth Tanners: Thank you all for the presentation. I'm Timna Tanners with Wolfe Research. Just wanted to touch on the new forecasts relative to the old ones. I see that iron ore fines production forecasts are intact for 2026 and 2030, but the pellets or agglomerates, as you call them, estimates have come down fairly substantially for 2030, and also the copper production. I thought Shaun talked about 900 million tonnes for 2030 – sorry, 900,000 tonnes for 2030 and now it's 700,000 tonnes by 2035. Similarly, nickel, of course, is a bit lower as well. Can you elaborate on why the lower production numbers for those items? Thank you.

Gustavo Pimenta: Sure. I'll probably take a first shot here and then Shaun can complement, also Rogério on the agglomerate. I think on the agglomerated, it's probably adjusting, or it is adjusting for a slower pace in the decarbonization. So, reflecting on that, we had guided before for 100 million of agglomerated products by 2030. So we're now...

Rogério Nogueira: 100 million tonnes.

Gustavo Pimenta: ...100 million tonnes of agglomerated products by 2030. We are bringing this down slightly to 60 million tonnes to 70 million tonnes to adjust for the current market momentum. That's where we see the market potentially taking those volumes. Copper, we removed Hu'u from those numbers, would love to have Shaun talking about how we are thinking about Hu'u and that was one of the large potential projects. So, maybe Shaun if you can comment.

Shaun Usmar: Yeah, there's two key deltas, particularly in copper. The first is in the 2026 timeframe, which is really just the movement of the copper out to 2028. That's the bulk of the variance. And then, as Gustavo has mentioned, we've got Hu'u, which was in the 900,000 tonnes, which for the time being is not there. It's the best, I think, copper-gold discovery. We're getting an award at PDAC for, I think, the best in the last 20 years or something. And that FEL study is being completed by the end of the year.

So at that point, the question is, with such an endowment what's the right way, in the jurisdiction we currently operate in, to be able to unlock value? And that's really what we'll do and at that time we'll communicate. You'll appreciate coming in, my job is to make sure that we can deliver into guidance, and indeed beyond that, premium multiples are usually earned by teams that consistently deliver and that's going to be the focus. And the focus for us as a team is not focusing on just where we are at this moment in time on, say, budgets and plans, but how do we actually iterate with, go beyond what's been identified, I think with the asset review and others and try and build those in, in a continuous improvement approach. So, that's where we are. It's not super material in that short period of time, but it's really around developing exactly the message I was trying to give you, which is we've got to deliver and that's our focus.

Rogério Nogueira: Yeah. I guess, on agglomerates, I think Gustavo said, just to complement, that our idea is not to invest in agglomerates ahead of the market. So, we're going to co-invest or invest together with our clients or investors or putting direct reduction modules to produce DRI and HBI. So, we're trying to match our investments with their investments. So, essentially, we're just following their pace.

Luciana Oliveti: Thank you. Next question from Caio Ribeiro.

Caio Ribeiro: Thank you. Caio Ribeiro from Bank of America. Thank you for the opportunity. Thank you for that comprehensive presentation. So, I have a question that is really a request to get an update on two key topics for the company, which end up being some catalyst for Vale. One is on the railroad concession renewals. What's the latest on that? And second, on the cave decree in Brazil, if you could provide some color on those two things, I'd appreciate it. Thank you.

Gustavo Pimenta: Sure. Thanks, Caio. So, on the concession renewal, discussions are advanced with – we negotiated in detail with the ministry and things are very advanced. We haven't closed yet. There are some legal processes that needs to go through, because this was a process previously approved. So, we feel optimistic that we will be able to settle this soon. If not this year, we are already in December, but early next year. But we feel we are close to settling and that's a key priority of ours, like we did with Mariana. And we said many times we are optimistic about getting to a conclusion on Mariana. I feel the same with the concession. I think it's a matter of time for us to conclude this important topic.

On the cave's decree, similarly, I think we – you all know the challenges that we face, but not only us. Any developer in Brazil beyond mining faces for a new project if they find a cave. It's a very restrictive regulation, which – there is a desire, and I think a willingness, to work to modernize that legislation and to make it more comparable to what other countries like Canada, Australia do. So, we are hopeful that this is going to get to also a resolution because it's important to understand this is not only a Vale issue, this applies to any infrastructure project in Brazil, applies to any miner in Brazil. So, we understand, for the government, this is an important topic as they want to promote infrastructure investments in Brazil. So, we've been talking with the ministries and ensuring that there is an opportunity, highly unique here for us to modernize that legislation. And we are hopeful that we'll be able to achieve that in the short period of time.

Luciana Oliveti: Thank you. Next question from Alex Hacking.

Alexander Nicholas Hacking: Yes. Hi, Alex Hacking from Citi. I guess I have a follow-up question on the copper growth. So, what you've outlined is a low CapEx intensive brownfield strategy, right, which is very sensible, but it's 100,000 tonnes here, 100,000 tonnes there, doesn't necessarily move the needle on a company the size of Vale. M&A, as you outlined, obviously doesn't make sense. So, if we discuss greenfield, is there anything prospective, in Carajás or anywhere else in the portfolio that could be a greenfield opportunity, before Hu'u, which seems like it's a little bit longer dated? Thank you.

Shaun Usmar: I think the first comment I'd make is, when you've got the endowments and the position, as we mentioned, what's being put forward now is really through a lens of making sure that we can demonstrate execution and deliver into it. We have talked about a very significant greenfield opportunity that is not included in those forecasts, albeit not in Brazil, that we'd look to comment and share on in the future. When I think, for example, in a business – I was in Xstrata's nickel business prior to this. The mainstay today is Raglan. And Raglan has fixed infrastructure of a 70-kilometer strike and is always developing deposits over a period in order to be able to supply the smelter and concentrator. That today, I think, on a go-forward is the opportunity and I think what we are looking at in Pará, well certainly myself right now is very much with that lens. I can't comment at this moment any additional greenfield opportunities. I'll get back to you on that the next time. But I do think that an important distinction as I look at it right now, we've seen in the mining industry in years, people get greedy at the same time and they get fearful at the same time. Ideally, you behave kind of psychically. I'm seeing evidence of some private equity players who are starting to look at lithium and nickel in that lens, for example, and we have to make the most of our optionality for nickel in particular. But when we think about copper, we need to make sure that we maintain discipline. Our first copper opportunity that I see on the Pará state, when you look at the capital intensities, they range from $10,000 a tonne to $30,000 a tonne, give or take, and the returns, as we map them, are all in excess of our cost of capital. The focus is to really drive value per share. So, as much as I'd love to say, hey, we've got the 700,000 tonnes we're going to put another 500,000 tonnes here and this is going to be great, I'd rather come back to you actually having delivered more of those in time, because I think that's a better dynamic to a better multiple for this business.

Gustavo Pimenta: If I can add just one thing – add to Shaun's point, I think the difference now, if you look at our track record in copper development, if you go back to Vale Days of 2010, we had some of these projects. So, we actually spent a lot of time ourselves understanding why we're not able to develop those projects. So, they are good projects, right. And there are a lot of reasons for it, but one of them I'm certain, is having the right team in place fully dedicated for this type of business. This is not an iron ore development. This is a different type of business, requires different skills. So, the one thing I like – maybe the thing that I like the most about the Carve-out, is to have a fully dedicated team of specialists from the base metals business that understands the business, highly focused, incentivized for that, not incentivized if iron ore is doing well, incentivized if they do development in copper. So, we are changing even the incentive plan of the team and under Shaun's leadership. So, I think that combined with the endowment should make us more likely to win. It's not certain, but I think I feel a lot better about our chances to deliver.

Luciana Oliveti: So, next question from Marcio Farid.

Marcio Farid (Goldman Sachs): Thanks, everyone. Marcio Farid from Goldman Sachs. I think you've shown a lot of progress, right, on the iron ore side. I think we run at C1 at below $20 a tonne already, this yea, 328 million tonnes. It almost feels like for the first time in few years, you're being maybe too conservative on what you can deliver, right. So, I think, I mean, Rogério mentioned that between $90 to $100 iron ore prices, you have 150 million tonnes leaving the market. So, the question is, how much of that is Vale? How much of that volume can Vale, if that is any volume that Vale will take out of the market between $90 to $100? And at, let's call it, $120, how much more can you put your feet on the gas, right? Just to understand what is the kind of flexibility and how much aggressive – how aggressive and how conservative you can be on the schedule as well. Thank you.

Gustavo Pimenta: Maybe Carlos can comment about the operations, how we're thinking about volumes, as well as Rogério. But I would say we don't lose money with any facility at $90. Vale breakeven point for every single mine is below that level. So that shows the strength of our business, and we are driving this even lower as we go along. But I'll pass to Carlos.

Carlos Medeiros: Well, in terms of operations, I think you'll understand that this year, we could have done more. And the reason we didn't is because of market conditions. So, simply comparing the pace of the first half of the year and the adjustments after August when the market started behaving differently. So, the lower grade products, we reviewed, and we stopped producing that. So, this shows that differently to past years, now we look at the market and we try to maximize the value. So that's our approach rather than going to the maximum, you can produce mode. So, this is basically what is driving 2025 guidance. So, if the market changes, we can certainly review and produce more. That's exactly what Rogério meant about flexibility. We have this flexibility to react according to the market needs. So, this means more concentration, less concentration, more blending, less blending, whatever the market demands will be there to fulfill their needs. So, conceptually, that's the way we are approaching it.

Gustavo Pimenta: One stat, this is as an example. This year, for example, we removed 7 million to 8 million tonnes that we could be producing and going beyond the 328 million tonnes, right, because of market conditions we decided not.

So, Carlos together with Rogério decided not to move forward. So, it shows that the beauty of Vale and the more we see, the more we feel that it's very powerful from an infrastructure and logistics standpoint. So, we feel the company is finally reacting. We are learning how to operate post the accidents, because we've introduced a lot of new processes. The team now knows how to do filtration in a more efficient way. We know how to do dry stacking. So, a lot of those new process that took us time to understand, it feels now more in the flow of the operation. So, we will just see that system reacting naturally and to a point that we had to actually retain volumes given the market conditions.

Rogerio Nogueira: I guess, I think, Marcio, what – exactly what Gustavo said, the bulk of our portfolio falls within the $90, especially when you are producing higher grade materials which have a higher cost, they also enjoy higher premiums, which offset then our costs. So, it's the cost adjusted for premiums. When you're producing a lower grade material, it generally has a lower production cost. So, all in all, most of our portfolio, let's say, close to 100% of our portfolio falls within that category. I think the ones who suffer the most are the players who are in the fourth quartile, those actually, which are the ones who balance the market, but, no, it would not impact our portfolio overall.

Luciana Oliveti: Next question from Rafael Barcellos.

Rafael Barcellos (Bradesco BBI): Hi. Rafael Barcellos from Bradesco BBI. Congratulations for the event and thanks for taking my question. Firstly, a question about iron ore costs. Firstly, I mean, congratulations for what you have delivered over the past few quarters. I think it's the – we have seen the best operational results in many years. But during the last Vale Day, you were guiding for an all-in cost of around $45 per tonne, right, for 2026. And now, you're guiding for a little bit higher like $50 per tonne or above $50 per tonne, right. So, I know we are still quite far from 2026 and it's more normal to see some changes in these outlooks, particularly now that we have a new management team. But could you please disclose a bit more on your long-term view of costs? Also, I mean, what has changed that made you revise this outlook? And, Gustavo, maybe whether you see opportunities in accelerating some efficiencies or even cost-cut initiatives? Thank you.

Gustavo Pimenta: Thanks, Rafael. So, certainly, starting with the second one, we see still a lot of opportunities to be leaner, to be more efficient to introduce more technology to our operations, to improve productivity in the field. So, Carlos and I have been talking a lot about, there's a series of initiatives internally which make us feel confident about that $3 that Murilo highlighted, being able to cut that $3 and bring the company by 2030 between $18.5 to $19 and $20, below $20 there. So, we think that it's a very realistic scenario and those are in nominal terms even. So, it's highly likely if we are able to build a company that produces 350 million tonnes, out of which 60 to 70 million tonnes is agglomerated, with the C1 at $18 to $19, it's going to be the most – I think, the most exciting iron ore platform in the industry. And that's going to be our focus in the next several years. So, yes, this is one of the key priorities and we see opportunities.

Regarding your question on the all-in. It's mostly, all-in sometimes, it's hard to see, because it's mostly impacted in this particular case as a result of premiums. So, we adjusted down premiums given where the market is. Market has been tight. Clients are losing money or breaking even. So as a result, the industry, it's not remunerating as we pointed out, at some point in time, we thought decarbonization would have a certain pace. We are now coming in and saying, it will happen at a lower pace, given where the market condition is. That has a direct impact in premiums and therefore our all-in. But if you look at C1, the controllable, if you will, it's actually everything is getting better in the next – we expect to get better in the next several years.

Luciana Oliveti: Next question from Jon Brandt.

Jonathan Brandt (HSBC): Hi, Good morning. Jon Brandt from HSBC. Thanks for the presentation. Shaun, a question for you regarding copper. I believe you mentioned you would be willing to take on some partners. Could you just talk a little bit about the parameters around that, the rationale? I mean, presumably you don't need the money for it, is it a risk sharing thing or is it something else? And then sort of broadly, we look into 2026. Should we also , is that still the timeline for a decision on potentially selling a stake in VBM or doing some sort of corporate action within VBM? Thank you.

Shaun Usmar: Look, I think, there's not one size fits all when it comes to thinking about partners. I'd say right now, we're not out hanging a shingle out saying, come on in, because candidly, I've been here two months, and I can't tell you the number of unsolicited inbounds that we've had already. It's hardly a mystery. So, I do think that you've got to segment and bifurcate. What I've witnessed with the orientation, certainly within the business up to this point has been a copper – well, a copper and nickel project execution focus, which has been a little disconnected from the commercial side and really looking to build and do everything more ourselves.

And so, when we've started disseminating that and actually I mentioned it in some of my remarks earlier on, we're taking the studies, which were somewhat segmented, they're under our Chief Technical Officer. What we're looking to do is really integrate that very carefully on a commercial basis. We've already seen in my first ExCo, for example, a proposal that came through. I won't touch on the details on that. But in that, rather than giving approval, we just – there were several members of the teams in Brazil and elsewhere who said, we think there's a better way commercially. We've gone and worked through that. And guess what, there is a better way commercially and looking at potential contract mining or other alternatives, which can deliver it faster, lower capital and a better return given the scale of the opportunity.

So, I think if you bifurcate these some of these things, could lend themselves as a subset, smaller scale, things that we're perhaps not geared up to do as in agile as way possible, maybe future larger greenfields and certainly larger brownfields opportunities setting ourselves up to do that. And at that point, particularly, if it's a larger scale opportunity, I think similar to what Mark did with Quellaveco, Anglo at that time, and we'll look to adapt the structure so that we can deliver it on a giga project at that time. We just aren't in that phase. So, we shouldn't be structured accordingly for that right now.

So yeah, it's not one size fits all and it's very much focused on delivery. I think the challenge, and this isn't a VBM issue, but go and look at the sector, there's a lot of stuff around, tomorrow is going to be great. We're going to deliver x billion ounces of ore, or pounds, that has come from precious metals, so excuse me. But we're going to have billions of tonnes, et cetera. And then you look at the capital of your runs and the delays that occur. Even one of the majors in the last two weeks is talking just a standstill at Escondida, $10.5 billion to $14 billion just to be able to offset the decline in productivity improvements. That's the backdrop.

So, notwithstanding that, we're not coming out with a big bang here, the partnerships, I believe, are a way to, in a very tangible way, we're able to look to unlock tonnes and make sure that we can actually leverage what we do best and actually leverage what others do best. On your time horizon, I don't have anything to say at this time. The framework, I'm using internally. I just came from a company that I built from scratch, with private capital and we listed in, on New York and Toronto. There, the way to maximize value and optionality for that business, I believe, applies here.

And so, for me, that was saying, the discipline that comes with looking in a sensible timeframe, setting a business up for a possible IPO, not that you will do it. Our controlling shareholders Ma'aden will make the determination. But when you run a business with that lens in mind, the commercial lens, running the technical studies, maximizing your optionality, focusing on your actual track record, your quality of your reporting, the execution and delivery of the team that maximizes your degrees of freedom to continue with the way that you've been operating and to continue with the status quo. Indeed, to enter M&A transactions or to go public, if that's what our owners want to do at that time.

I'm using internally a notional three-year timeframe. I think it puts enough tension on the management team for us to, firstly, start demonstrating consistent execution, which would be a pretty important thing under any of those scenarios. And then indeed to be able to see what we can do to show that trajectory and that track record over time. So that's how I'm looking at it. But there's no news on any sell down of any kind at that point.

Luciana Oliveti: So, our next question.

Viktor Raykin (Bank of America): Thanks so much for a great presentation. Viktor Raykin, Bank of America. I have three questions. First one is, when Mark Cutifani was Anglo American, he was driving in the direction of AI, robotics, machine learning and all that. Since he joined the board, is there any advancement in that area? That's my question number one.

Question number two, you touched on this very lightly on the dry stacks, dry tailings and I'm wondering how much you view this as a future trend for the company. And the third question, you didn't say anything about Vale Fund. When I was – they're like five or six years ago, we met with a crew from Vale Fund and they were kind of giving us an overview of various interesting, innovative initiatives, but somehow you didn't really discuss it at all. Thank you.

Carlos Henrique Medeiros: So let me start with the AI. We have a number of initiatives that are using AI. So, for instance, we use AI to predict the amount of moisture for our shipments prior to the loading at the ports. This is particularly important during the rainy season just to avoid the moisture to go over and above the technical limit. So that's one. The one I presented today that we are using in our project Orion for our processing plants. So, we're introducing not only automation but automation with a layer of AI that will help us maximize the benefits during the flotation process in order to obtain more direct reduction feed.

So, to illustrate the power and we are not even done with this is traditionally, the output of these processing plants was 50%/50%, 50% blast furnace, 50% direct reduction. So, there are weeks that we are – our average for this is 77%, and there are weeks that we get to 92%. But it's not stabilized yet because it is still a long way to go. But that gives us, a perspective of how powerful, how effective these tools can be. And the other one is these assets monitoring centers as I mentioned, that is an AI algorithm overseeing the entire process and working very closely with our maintenance team. So, this is allowing us to be really productive and to be using hard data and we can maximize the benefits of any maintenance process. So that's one.

On the dry stacking, I believe it can be a trend, because through the filtering process and the dry stocking we avoid dams and the big question that we had was, how good Vale could be in dry stocking in a country that rains a lot. So how can we do this? And that's exactly what we've been working throughout these years and learning how to do this. So today, I can tell you that we can operate and dry stack even when it is raining.

Of course, those worst day of heavy rains we have to stop, but we now know how to do it with quality, observing the technical limits. So, to make sure that we can evolve. All of our findings were shared with the geotechnical community recently in the Congress in Denver. So, we shared our learnings. So, the entire world is looking, because it is first time in the industry that someone or some company is doing it at a large scale. So, everybody knew how to do it, but at a small scale. But the way we're doing now, I think it's been really innovative. And we have been very open with the entire geotechnical community on how to do it.

Gustavo Pimenta: On the fund, maybe I'll just comment on the fund quickly. It's a good point. We haven't talked a lot and probably we'll talk a little more as we go forward. We've allocated probably $100 million over the last couple of years. Small investments on initiatives that could be disruptive for the sector, either magnetic concentration by-products treatment. Carlos mentioned some of that here. We want to bring when it gets to a more mature level. But there's a lot of very interesting things going on in our space. And the team is highly focused on making those bets and trying to bring to scale, so at some point in time, we'll give more visibility about it.

Carlos Medeiros: One good example is the sand. So, the sand business, this year we'll produce 2.5 million tonnes of sand. That in the old days it'll probably be sent to the dams. But now this is being sold as product for the construction industry.

Shaun Usmar: And just on that, to your point, I know we were in Rio at board last week, I spoke briefly about, in a practical way, on opportunities on our systems within VBM. We have, I think, an opportunity to be able to learn and cut and paste from the progress that's already been made in iron ore. Actually, I've spoken to a partner of Ma'aden about some of their applications that they're utilizing. I met with an expert in Canada, who is really focused on practical applications of this, who it is going to be speaking to our executive team to be able to look to see in each of our disciplines how we can actually try and make this not just the conversation but try and fast track that in a surgical way. So, we're in the start of that journey.

Rogério Nogueira: Not to overextended, but we have created a Vale venture building initiative and a corporate venture capital initiative as well. In the corporate venture building, we have initiatives such as the briquette in there we just talked about, which is probably the most disruptive innovation for the steel making for the last maybe three or four decades. Not only for blast furnace, but also for direct reduction. Just to give an example, if our industrial test goes right, the ability of the briquettes would be to double the productivity on the direct reduction shaft furnaces compared to pelletizing. It's going to be without – less CO_2 emissions, it's going to be with lower OpEx and lower CapEx. This is just one pure example.

We also have created under Vale, as Medeiros was talking, a company to sell sand, a company which is producing a geopolymer, which is reducing CO2 in cement production by 80%. So, we have lots of things going on within our company, smaller initiatives. We have spun off a company for producing coal or biochar to replace coal in many, many applications. We have under our CVC invested in about five companies, for example, just naming one, a company which is actually the most promising company on hydrologic or geological hydrogen, which is probably promising for the future. So, we do have a lot of initiatives, but we don't bring up this kind of discussions because they're either small or they are under their development process. But we have a lot of initiatives ongoing.

Luciana Oliveti: Thank you. The next question is from Alfonso Salazar.

Alfonso Salazar (Scotiabank): Yes. Thank you. Alfonso Salazar with Scotiabank. And the question I have is for you, Rogério. I think it was important to understand and very interesting, the difference between the short-term strategy and the long-term strategy for Iron Ore Solutions. So, the question that I have is in the short-term thinking in 2025, maybe 2025, 2026, how do you see the premium moving in the short-term given the situation that China is facing? And as you ship more ore and more products to other places in the world, how this is going to improve the quality premium there over time?

Rogério Nogueira: All right. It's a very good question. First, let me just tell you a little bit the long-term recap and I'll come back to the short-term. I think before decarbonization, even longer-term before decarbonization, we're seeing, as we just talked about, steel production increasing over time. It will increase based, as I said, on population growth, urbanization, et cetera. China will decline, which is an important element to that, but it will be offset by other countries and regions. But taking China because China is the key country which it would be facing the sharpest decline in steel production, right?

And I will just tell you because we – as Gustavo was saying we have been just a couple weeks ago, we have been in China, we have been in Southeast – in Japan, Korea, talking to many of our clients there. I think their view is that they are having a relative cautious stance. And the reason is they know that the market – they have a lot of capacity, that they will need to shut down as the market – they're operating – first, they're operating with very low margins. They know that the industry has a lot of overcapacity that they will need to shut down over time. So, they're cautious and they're operating with ores which are cheap and they are not willing to pay for premiums right now. So that situation needs to change gradually, over time. Their margins would need to increase, et cetera.

Having said that, I think there's some positive news when we look into that. First, there is consolidation going on. A few of our clients, just to name a few, Jingye, Jianlong, they're actually going through this consolidation spree. And the expectation is that as they do it, the industry will rationalize capacity.

Secondly, there's a bit of an expectation that they're going to make at some point in time, as they've done in 2015 under the supply side reform and for some of the most inefficient capacity to shut down. And last but not least, the Chinese government right now is not actually issuing any new licenses or quotas for additional blast furnaces. So that gives a little bit of a sense that despite the situation now, not being very promising, it will actually revert over time, some signals from the ground, right, that you all follow very closely. Despite the fact that the property sector is year-to-date, fixed asset investments is down about 10%, you have positive news on the infrastructure fixed asset investments with about 4% increase. Manufacturing is about 10% increase year-to-date. So, there's some positive indications from the ground.

And last but not least, with all this geopolitical situation, there is an expectation that depending on what Trump does with the tariffs that the Chinese government, not only the Chinese, but other governments, will incentivize the economy, the domestic market, and that in turn would actually bring additional demand back and some margins will get better. Premiums in turn will get better. I think, of course, I think I'll say medium term, this trend is actually going forward, hard to say the timing, but even before the transition to the real decarbonized industry, our view is that there will be a gradual improvement in premiums. But that's, we know that we will face volatility. There will be an improvement over time but facing volatility throughout the journey. That's our expectation.

Luciana Oliveti: Thank you. I believe we have more time for one final question. Please go ahead.

George Rexing (Safra): Thank you very much. George Rexing from Safra, here in New York. I wanted to go back to – first of all, thank you for the presentation. I wanted to go back to cash costs for iron ore. You had – Murilo showed a very interesting evolution of the cash costs from 2018 to 2024, six years, of which half was new ways of doing business. And similarly, a couple of your peers had similar cash cost increases. So, would you say that a lot of these were industrywide new ways of doing business? And I also noticed that from 2024 to the next 6 years to 2030 you see a significant reduction in the cash costs. So, could you kind of talk a little more about that evolution? Thank you.

Gustavo Pimenta: Yeah. Look, I think that trend of cost increase, C1 increase is across the industry. It's not only Vale. Vale had its incremental issues as we added, we talked about, as we added new processes post 2018 and that created an add incremental cost to the operations, which we are now being able to optimize. So, certainly I think that's the one thing that it's impacting everybody. I think we are all seeing a trend in this phase of degrading, right? It's harder to bring projects online. It takes more time. It's more costly. It's not only a Vale issue, if you see our competitors they are facing the same similar issues. So, bringing the ore it's being more expensive. We have to dig deeper. We have to drive longer distances. So, this is a sector wide issue that we are all dealing in the best way we can. But we are feeling optimistic about being able to revert that trend, which is the story that we started to see in the last couple of quarters. And I'm highly confident as we get more mature and this new way of operations, we'll be able to continue to drive this down.

Luciana Oliveti: Thank you very much. With that, we conclude our Q&A session. I kindly ask you if you could stay around to interact with our executives and board members for next minutes. Thank you very much for joining us, Gustavo. If you'd like to make a final remark.

Gustavo Pimenta: No, just to thank everybody. Thank you.