



VALE DAY 2020

Mr. Ivan Fadel: So first of all, I'd like to thank you very much for being here with us today in our first completely virtual Vale Day. So for our presentation and Q&A session here we have our senior executives and I'll quickly introduce each one of them. So we have here with us Eduardo Bartolomeo, our CEO; Marina Quental, Director of People; Carlos Medeiros, Safety and Operational Excellence Officer; Marcelo Spinelli, Executive Officer for Ferrous Minerals; Mark Travers, Executive Officer for Base Metals; Luciano Siani, our CFO, Alexandre D'Ambrosio, General Counsel; Alexandre Pereira, Executive Officer for Global Business Supports; Luiz Eduardo Osorio, Executive Officer for Sustainability and Institutional Relations; Paulo Couto, Director of Coal; and Marcelo Klein, Recovery and Developments Director.

So, we plan to have a 1h15m slide presentation, including six videos, and after that a 45 minute Q&A session. So, we have received already many questions in advance, but we will also collect questions during the slide presentation and for that please use your cell phones and scan the QR code you're going to see on the screen.

So, finally I should remind you that all participants will be on a listen-only mode to improve sound quality. So, with that said I hope you enjoy our event and I will now pass it on to Eduardo Bartolomeo, who will go over our presentation on "How to Build a Better Vale". Eduardo, please. Thank you.

Mr. Eduardo Bartolomeo: Thank you, Ivan. First of all I hope everybody is safe and sound and I would like to thank you for being with us today in this virtual setting that's going to be a novelty for everyone. But it's my second day at Vale Day and it's an honor to have the opportunity to discuss and show the important steps that we're taking towards building a safer and more reliable company.

But before we do that, I would like to reinforce once again that our number one priority is the reparation of Brumadinho. We will never forget Brumadinho. Since I took over the leadership of Vale, I've been vocal about three words: people, safety and reparation.

Those three words have inspired us to create the roadmap that is fundamental to build a better Vale. Brumadinho is the driving force behind everything that we are doing to improve our company. Even during the pandemic, we maintained the critical reparation works and actions. So, with that I invite you to watch a video that shows some of the progress we have made so far.



Narration Video #1: We continue to work daily to repair and develop the city of Brumadinho and the region. The integral reparation plan comprises several environmental, social and infrastructure initiatives, some already in place and others underway. The following is a highlight of this continuous work.

To repair the environmental damage, our plan is to fully remove all tailings by 2023 and revegetate the entire area by 2025. Part of this area has already been recovered and part of the original course of the Ferro-Carvão stream was recreated. We installed a tailings containment system, which since 2019 has been preventing the flow of sediments into the Paraopeba river.

With all these actions, the team monitoring the Paraopeba basin has already seen improvements along the river. To meet the demands of producers who depend on the river for their activities, Vale will continue to supply drinking water until they can start collecting water from the river. We have finished building the Pará de Minas pipeline system, which will supply water to more than 100,000 people.

In the social and economic aspect, we developed initiatives to foster and diversify the local economy, reduce dependence on mining and help transform the local reality. We recently delivered a daycare center and a health center. Two other nurseries and a center dedicated for children with special needs are in an advanced stage of construction.

We remain committed to repairing the damage with transparency and speed. Everything we have learned since the B1 Dam breach has helped us advance an important cultural change towards a better Vale.

Mr. Eduardo Bartolomeo: As you can see, this video brings some important examples of our commitment to Brumadinho. With those actions, we have already disbursed US\$ 2.6 billion. We already indemnified 8,300 people. In addition, we also designed a plan for the community of Brumadinho. This master plan was built on the community's perspective and has been very well appreciated by the local authorities.

And as you know, we're having encouraging conversations with the state of Minas Gerais and other stakeholders to get a framework agreement for collective damage and reparation. With that, we continue to pursue our goal to reach a stable agreement for this matter. But let me be very clear: regardless of any agreement, we'll continue to deliver on our commitment to the full reparation of Brumadinho, that is, to repair Brumadinho with quality, care and at a fast pace.

One of my first decisions as CEO, in 2019, was to add two new pillars to our strategy. Actually, they were two resets inside Vale and they have improved a lot during 2020. The first pillar was set to create the safety and operational



excellence mindset. It's about assuring dam safety and asset Integrity, it's about creating discipline towards operational excellence, it's about being obsessed about safety. And we are advancing well on it.

The second pillar is what we call the new pact with society. It means actively listening and working together with society so we can create a virtuous cycle that brings prosperity to everyone. One good example of this new pact was our great support to the Brazilian authorities in fighting Covid, leading the Brazilian corporate effort to join forces with the government in the battle.

2020 was an year about a better stability in our business, despite Covid, and on the effective delivery on our commitment to these new pillars. But important to our stability as well, our executive team is together, since July 19th, and truly committed to this agenda. Our actions within those two pillars, that you'll see throughout this first part of the presentation, are essential to the process of transforming Vale. Later Spinelli, Mark and Siani will come to talk about the other three pillars of our strategy.

With that in mind, we outlined a guide which we call one page, a narrative that will lead us toward this better Vale. It took a lot of effort from our team and we're sure that it will lead us to this goal. Let me guide you through this one page. It starts with its foundation, our values, that you can see at the bottom of the page and goes all the way up to our mission, which is to transform natural resources into prosperity and sustainable development.

Our values haven't changed. They remain the same. But in this quarter's transformation, we look deeply into our culture and we concluded that we needed to move from a culture of make it happen in any way to a culture of learning together. To give you an example, life matters most was already a value. But we wanted to create a chronic unease behavior around this value.

With the new culture fostering this new behavior, we could now lever it with our VPS, for example, to achieve higher levels of safety. VPS works as a lever because it's our management model that puts safety as a priority. With this interconnection occurring in a virtuous way, from bottom to top and top to bottom, we can achieve our ambitions, in this case, which is to become a benchmark in safety.

Besides that, we have the ambition to be a best in class reliable operator, a talent-driven organization, a leader in low-carbon mining, and a reference in creating and sharing values. So today we use those ambitions to lead you through our presentation on how we are building a better Vale.



Let's start by talking about becoming a benchmark in safety and a reliable operator, which are directly correlated to our pillar of safety and operational excellence and for that I would like to invite our Executive Officer Carlos Medeiros. Please, Carlos.

Mr. Carlos Medeiros: Thank you, Eduardo. Good morning to you all, good afternoon. As you're probably aware, Vale utilizes the three lines of defense model. The operation is the first line of defense, the organization I lead is the second line of defense and our internal auditors are the third line of defense.

As Eduardo mentioned, we have the ambition to become a benchmark in safety and I would like to share with you the important strides Vale is making in both occupational and process safety. The column on the left describes the organization's long-term safety targets. It comprises targets in high potential events reduction, reduction of human exposure to hazardous agents and a high-risk scenarios reduction. The graphs on the right illustrate our progress so far and as you can see we are on track to become a much safer company in the next years

Our process safety program starts with the HIRA, hazard investigation and risk assessment. A team of 12 multidisciplinary people visits our sites and, working side-by-side with a local management, identify the most critical process risks, as well as their respective controls. This activity follows a well-defined methodology, which has helped so far identify almost 600 critical risks and more than 6,000 critical controls. Monitoring the Integrity of these controls has become a part of our daily maintenance routine. By the end of 2020, more than 90% of our sites will have received the HIRA.

The combination of the occupational and process safety programs has proved to be truly transformational. The obvious consequence is that Vale has become a lot more proactive. It is starting to display a chronic unease, as Eduardo mentioned, for safety-related matters. The operations below were halted during 2020 for different reasons and I would like to highlight a few of them. VNC and Simões Filho, these are both refineries that have been permanently shut down, as they failed to comply with the HIRA requirements. Sossego's operation was temporarily paralyzed to allow the team to fix several issues related to assets integrity.

This one is a busy slide, so please let me walk you through it, starting at the top. Our tailings management system is being rebuilt to ensure the adoption of all known best practices to manage our tailings dams. Although it is still a work in progress, it is highly adherent with the global industry standard on tailings management. Vale will implement the global standard and is well-positioned to



complete it by the end of 2021. The practical consequence of this work is that our governance has been strengthened and our team is more prepared to make the best decisions about our dams' safety.

Our tailings management system is organized around three pillars: routine, performance and risk assessment. I will explain briefly what it means, starting from the left column. Routine: we have a new dam management policy and the roles and responsibilities matrix has been reviewed. Both are requirements from the global standard.

Performance: the engineers of records are in place since last January. Their monthly reports will be made available during the first quarter of next year through our ESG portal. Engineer of records is also another global standard requirement.

Risk assessment: the HIRA methodology that I explained a moment ago has been utilized to assess the potential failure mechanisms of our dams, as well as the controls that are in place. The first assessment was completed last September and we are targeting to conclude this exercise by the end of 2022.

While we are strengthening our tailings management system, improving our dams' conditions and working closely with the engineer of records, we are also continuing to decharacterize our upstream dams as per the announcement made last year. Until the year end, five structures will have been decharacterized and another three will also be decharacterized during 2021.

At the bottom, we're highlighting the three most critical structures, and by the way none of them are operational. As you can see, two backup dams have been completed and the third one will be finalized during the first half of 2021. The decharacterization works for the B3-B4 dam has already commenced. The progress is deliberately slow to avoid the introduction of additional risks. You will now watch a video explaining the de-characterization process.

Narration Video #2: Vale is aligned with the most rigorous international practices regarding tailings dam monitoring and management. The decharacterization of tailings dams and other upstream structures is essential for the company's safety and operational excellence pillar.

Since 2019, Vale has decharacterized three tailings dams and three more will be completed in the coming weeks. The decision to decharacterize all upstream tailings dams, dikes and drained stacks is an important milestone to reduce the company's level of risk. Aiming to reinforce the safety of communities and the environment, Vale is also carrying out emergency containment works for upstream dams at higher emergency levels, to increase the safety in the region during the decharacterization works.



These major engineering projects are being executed with the necessary care, quality and agility. The back-up dam downstream the Sul Superior dam was delivered in 2020. It is 36m high and 310m long. The back-up dam downstream the B3/B4 dam was delivered in 2020. It is 33m high and 221m long. The first phase of the downstream back-up dam for Forquilhas I, II, III, IV and Grupo dam was delivered in 2020. It is currently 77m high. The final phase, which will be 93m high, will be delivered in 2021.

In addition, Vale has been taking measures to improve the stability and the safety conditions of structures at emergency level. Among other measures, Vale completed bypass channels for the Forquilhas I, II, III, IV, Grupo, B3/B4, Vargem Grande and Sul Superior dams. To follow the implementation of our decharacterization plan for upstream structures and the evolution of our dam management, visit vale.com/esg.

Mr. Carlos Medeiros: Besides becoming a safety benchmark, Vale also has the mission to become a reliable operator. How do we expect to do this? This will be done through the implementation of our integrated management system, or VPS, as we call it.

Let me give you a flavor of what this is about. As any integrated management system, VPS brings together all of Vale's processes and systems into one single framework, enabling our company to work with unified objectives and in a standardized way.

The VPS implementation is already creating a positive momentum within Vale. 100% of our employees have been trained and they are fully engaged. For example, a week ago, during our online global VPS summit, 18,000 employees were connected. Thousands of continuous Improvement projects were submitted. Our workforce is gradually understanding the benefits VPS brings: safer work environment and a more effective problem resolution process. This inevitably will lead Vale to greater reliability

There are some tangible benefits already being perceived on maintenance performance, as highlighted on the column on the right hand side. The video you'll watch next will tell a bit more about the VPS and its three dimensions: technical, leadership and method.

Narration Video #3: Ensuring the safety of people and operations is Vale's priority. Adopted by operational and administrative departments, Vale management system, the VPS, is composed by three dimensions: leadership, technical and method.



The leadership dimension establishes a set of practices for strengthening culture and the organizational discipline through people development. For example, we are training our employees using DOJO, which is a place previously prepared where we simulate, in a controlled manner, situations that are part of the operational routine.

We also have the technical Dimension, which contains the elements to establish common policies, guidelines and process requirements for managing assets and addressing risks inherent to our business. In the locomotive workshop, it was possible to define regularity for the operation, increasing quality and productivity, in addition to presenting a more stable safety result through VPS.

In the third dimension, the elements of method create discipline and ensure that all areas are continuously assessing indicators, exposing problems, aligning priorities and taking the necessary actions to achieve results. In Vale's operations, we use the floor management development system, or FMDS, as a visual management tool to ensure daily check and preventive action in solving problems.

Together, the three dimensions strengthen Vale's organizational culture through people development, standardization of best practices, operational discipline and compliance with routine. With this, we will redefine the path to operational excellence as a more humane, safe and sustainable company.

Mr. Carlos Medeiros: Everything we're doing here can only be accomplished through the real engagement of our people. I will hand over now to Marina Quental, our Executive Officer for People, to talk about Vale's human capital. Thank you.

Mrs. Marina Quental: Thank you, Carlos. Hi everyone. I will talk today about people and culture. We have set a very clear mission at Vale: to be one of the safest mining companies in the world and hence a reliable operator. How do we plan to achieve that? By attracting and developing the best professionals and by promoting a culture of collaboration, inclusion and lifelong learning nurtured by performance, with the right incentives. In a nutshell, we are moving to be a talent-driven organization. We know it's a journey and I'm glad to highlight to you today some important progress we've made this year.

The orange and the green boxes in the left side are examples of how we are improving our culture of safety. The implementation of the second line of defense has strengthened our technical capabilities, enhancing clarity of roles and responsibilities. In the last 12 months, we added more than 200 new geotechnical professionals, mostly on our operations, and we have also resourced the new



safety & operational excellence office, with global high specialized talent, having almost half of them less than 5 years tenure. Conscious the needed culture shift must be driven by the leadership, we've been investing heavily in nominating and developing our leaders.

In the blue box you see the results of our efforts to renovate the leadership. At ferrous organization, almost 60% of the leaders are either new at the company or at the position. In the red box you see an important step in a commitment we made here last year: to become a more inclusive organization, we defined a goal to double female representation in 10 years. This year, we increased our female representation in leadership rose by 21% and I can say, I must say, we are working in all dimensions of diversity towards a true inclusive Vale.

Finally, in the yellow box in the right down corner, you see that our compensation targets were also strengthened to reflect the coach we want. For next year, 60% of Vale's scorecard is linked to our ESG agenda and to the operational discipline, as Carlos just guided us through. We, as the executive board, have defined a bold roadmap for the transformation we are going through, which is deep and goes beyond our boundaries. We are actively listening to the society, working hand to hand with the communities and engaging our employees, aiming to achieve the ambitions Eduardo shared with us here. Now I pass back to Eduardo.

Mr. Eduardo Bartolomeo: Okay, thanks Marina. Now let's talk about our last two ambitions, which are to be the leader in low-carbon mining and a reference in sharing and creating value, ambitions which are directly related to our new pact with society.

Last year we announced very ambitious goals, as you may remember, and they're shown in the slide. Starting by our climate change resolutions, we had strong reduction targets for scope 1 and 2 emissions, aligned with the Paris Agreement and also a net-zero target by 2050. Now I'd like to invite you to watch a video that summarizes our climate initiatives and the roadmap to deliver on those commitments.

Narration Video # 4: Our products, operations and supply chains are essential to society. At the same time, climate change is a reality and a challenge that is affecting not just our productive activities, but also our people and communities.

We believe we have a unique potential to contribute to a low-carbon future. We own the world's biggest mining project with high iron content. Our nickel mines contain around 60% primary nickel, a more refined product to produce batteries and electric vehicles.



We will help the world limit global warming in alignment with the Paris Agreement. To this end, we are committed to becoming carbon-neutral by 2050 and cutting our direct and indirect absolute emissions, scopes 1 and 2, by 33% by 2030.

Our electricity consumption matrix is also a competitive advantage in the climate change agenda. To achieve these goals, we have designed a plan and we will invest at least US\$ 2 billion. Using a “marginal abatement cost curve”, we have mapped more than 35 initiatives with the most significant potential to reduce our emissions, at the lowest cost.

We have already incorporated a shadow carbon price into our investment decisions. This way, we are signaling to businesses that we must prioritize initiatives that help us to reduce our emissions. As part of this long-term trajectory, pilot projects and other initiatives are under way.

The PowerShift Program aims to change Vale’s energy sources from fossil fuels to renewable sources. One example is the 100% electric locomotive powered by electricity instead of diesel. We also already have 25 battery-electric vehicles operating in our underground base metals mines in Canada.

We are aware of our responsibility and our strengths. We will not limit our climate action on our operational boundaries. Accordingly, we will encourage our clients and suppliers to move in the same direction, contributing to a more sustainable industry and to greener future.

Mr. Eduardo Bartolomeo: Well, as you could see there's a lot of work and we're committed to this journey. And we are aware that we have an additional challenge, since we're increasing our production. On the chart, you see that we estimate to reach peak emissions in 2023, when we should be producing around 400 million tons of iron ore. We're now investing in innovative lower carbon technologies and by 2024, 2025 they'll be mature and at a scale to help us to reach our goal. As well, we monitor this performance in our monthly low-carbon forum meetings, a group led by me and executive directors and their technical teams.

As you know, our electricity consumption profile is one of our top competitive advantages in reducing scope 1 and 2. Last year, we announced a target to achieve 100% renewable consumption in Brazil by 25 and globally by 2030.

Today, our global consumption is already close to 80% from renewable sources. In the beginning of 2019, we announced a new project, Folha Larga Sul, which is operational since last August. Today I'm glad to announce a large solar project



called Sol do Cerrado, which has just been approved by our board. Sol do Cerrado is expected to be operational by 2022 and will deliver 13% of our self-generation goal.

As you could see, we have a bolder map, with clear milestones to our scope 1 and 2 emissions, but we recognize that we can only be leaders in low-carbon mining if we induce our value chain on the same direction.

So, we want to make a very important announcement today regarding scope 3. We are committing ourselves to reduce our scope 3 net emissions by 15% until 2035. We know this is not an easy task, but I believe Vale has a unique position to deliver this. And we are committed to work hard to reach this goal.

I believe we are one of the few companies that have initiatives that alone contributes to deliver 15 to 25% of our scope 3 targets. Our direct contribution will come mainly from our portfolio of premium products, which enables steelmaking emission reduction, our HBI technology using natural gas, and our pig iron production using biomass. And finally, we also rely on nature-based solutions and carbon markets to neutralize emissions.

To deliver the other 75 to 85% part of our goal, we'll rely on partnerships and engagement with our value chain to help them innovate and decarbonize. We are already mapping different technologies for steel decarbonization, including CCS, hydrogen and scrap and we are open for partnerships with our clients.

On shipping, our very large ore carriers are already the most efficient in the world and we are committed to supporting the shipping industry to deliver on the IMO targets.

To complete our climate agenda, I would like to highlight that Vale's Net-Zero Strategy has its pillars on: emission reduction and offsetting. Aligned in Brazil and especially Vale's forest location, we may also use sound and credible carbon offsets. Today, we protect more than 1 million hectares, the equivalent of 6 times greater London. In 2020, we added another 50,000 hectares and we are on track to achieve our 2030 goal that we have mentioned here last year. Please, let's watch a video that illustrates our approach on forests.

Narration video #5: For more than 30 years, Vale has been helping to protect the Amazon. There are around 800,000 hectares of protected forest in the region. A commitment to the environment is at the heart of our work.

For example, when constructing the S11D iron ore complex, we altered the original design to move the waste rock piles to an area that was already degraded, thereby saving around 1,000 hectares of forest. By changing this



design and taking measures to restore habitat, we will expand the amount of forest by more than the area affected by the project.

Currently, Vale helps to maintain more than one million hectares of forest worldwide. Vale has also committed to protecting and restoring another 500,000 hectares of forest beyond our boundaries, until 2030.

In partnership with governmental organizations and communities, Vale is restoring habitat while generating income and preserving rivers in Pará. These initiatives reflect Vale's commitment to be carbon neutral by 2050 and they are aligned with the transition to an ever more sustainable mining industry.

Mr. Eduardo Bartolomeo: So, let's talk about our final ambition, which is to be a reference in creating and sharing value, which is also linked to our 2030 commitment for income generation, basic health and education. Our work in communities involves active listening and an engagement strategy to define and prioritize social actions.

Let me show you three examples of investments in urban infrastructure and education to improve socioeconomic development. The first project is in the North of Brazil. In Pará, we support a program aimed on the reduction of violence in communities. More than 370,000 people will be benefited.

The second is in Maranhão. We have a project to promote literacy at the recommended age and we already saw improvements in the educational tests applied in some municipalities.

And third, at the IT hub in Itabira, that we have mentioned here last year, we have just launched Infinita, a startup accelerator that will help around 90 companies to create 450 new jobs and train three thousand people. Those are examples that we must move from just creating value to sharing value with our communities.

Finally, as you may have noticed, we remain firm in improving our ESG practice and that's essential due to the risk of our business. We listen to our stakeholders and we mapped 52 ESG gaps, having already solved 33 of them. In 2020, we already addressed 7 gaps and 4 more should be addressed by the end of this year. For example, in governance we have established the audit committee. Recently, we created a nomination committee to support our board in the transition to a non-controlled company, following the expiration of our shareholders' agreement. And, as a good sign, risk rating agencies such a Fitch and Moody's and ESG provider like Sustainalytics have already recognized our efforts.



To conclude, I'd like to emphasize that we are very much aware of our responsibility. More than ever, we embrace the idea of listening to society and learning together with our stakeholders. Our ambitions, as you saw, are bold, and our actions are the foundations to consolidate the Vale of tomorrow by responding to the challenges of today. With that I invite now Marcelo Spinelli, who will talk about our strategic pillar to maximize the flight to quality in iron ore and how are we going to restore our flexibility. Thank you.

Mr. Marcelo ui: Thanks, Eduardo. Good morning, everyone, good afternoon. It is a pleasure to be here again in my second Vale Day. So, as you know, one of our strategic pillars is to maximize flight to quality. I'll show you in the next slides how we are going to achieve this in a sustainable way.

We have four main fronts here. We continue to reduce the dependence from dams. We have a plan to recover our capacity with new assets coming online. We are planning our capacity with some buffers to be more reliable. And we have the best portfolio of products and solutions to meet our clients' needs in a greener world. I'm really confident that we are in the right direction. My team is fully engaged to make it happen and sustainable results with VPS will come sooner or later, with safety first.

Well, last year we showed our plan to reduce the use of dams. I'd like to make an update about the initiatives. Well, remember that we started the blend strategy some years ago, producing BRBF in China. It's a very successful product, stable, reliable, is a result of a mixture of Carajás fines and the lower grades ores from the South of Brazil.

This allowed an increase in dry processing in the Southern and the Southeastern System and this process will continue as we're growing in the Northern System. But how are we attacking the remaining 40 to 30%? So, we have the dry concentration. Two years ago we acquired New Steel, a disruptive technology that you can concentrate without water.

We just submitted to our board's approval the first industrial plant, it'll be in Vargem Grande with the capacity of 1.5 million tons and the startup will be in the middle of 2022. Finally, we have the filter initiatives. We concentrate using water, we filter the tailings, we reuse the water and dry stack the tailings. We are implementing this solution in three sites: Vargem Grande, Itabira and Brucutu. In summary, in 2016, 60% of ore production was based on wet processing we use in dams. When we reach the production level of 400 million tons, we'll have only 14% exposure in dams or pits. Now I'd like to play a video showing the development of the filtrations.



Narration Video #6: Vale is investing in initiatives to reduce the environmental impact and risks associated with its operations. One example is the implementation of the filtering and dry stacking process. Iron ore beneficiation generates ultrafines and sand tailings that are traditionally disposed in dams or pits.

Vale is building thickeners and filtration plants using vacuum disc filters. In the process, first the tailings go through the thickener, generating a thickened slurry to be then pumped to the filtration plant. The tailings are filtered in a vacuum disc filter made of filtering cloths connected to a central vacuum system.

The filtering cycle occurs as the disc rotates. When the filter is immersed in the slurry sump, the water is vacuumed up and particles accumulate in the cloth to form a cake. The filter is then removed from the sump and any liquid remaining is vacuumed up, occurring the drying.

In the end, a jet of compressed air releases the cake and the material, now with reduced moisture, is discharged on a conveyor belt. The tailings are disposed and stocked in layers to minimize the occupied area, with a potential revegetation during disposal.

The plants of Vargem Grande, Cauê, Conceição and Brucutu, - all in Minas Gerais, - are under construction. In 2021, the first plant start-up will take place at the Vargem Grande complex.

The filtration plants will contribute to upkeep Vale's high-quality product portfolio, which include ores with a high iron content, such as pellet feed and sinter feed with low impurities. This initiative supports Vale's margins optimization. Vale continues to invest to reduce the need for tailings dams in the mineral process and to operate as a reference in safety and sustainability.

Mr. Marcelo Spinelli: Okay, now let's move to our path to four hundred million tons. This is the same manual that we presented two months ago in the investor's tour. I think this is one of the most important slides for this morning, this afternoon, and the first main message that I want to reinforce here will bring back our 400 million tons of capacity till the end of 2022. We have a clear plan, with new assets coming online, which is progressing, despite some variations, quarter by quarter, and the capacity will be resumed gradually over the next two years.

So, I'll drive you column by column in this slide. So, the first column, today, is the concept of the capacity today. If you don't evolve bringing any other asset or resume any other operation, that's what you can deliver at the end of the year, 320 million tons. Second column, 2021, is what we expect to resume next year.



The next slide will have some milestones system by system that I want to share with you.

So, our plan is to bring back around 30 million tons till the end of 2021. By the end of 2022, our goal: 400 million tons of capacity. And the last column is related to our buffer capacity, an effort to bring reliability to our plan and allow the possibility of swing capacity, very aligned with our margin over volume strategy.

But before moving to the next slide, I'd like to highlight the 2020 and 2021 production guidance. I know that you are very excited about this and I want to address all the information we have. We should produce a range between 300 and 305 this year. Why? We've been running slightly below one million tons, we've been talking about this the last weeks. We're just entering the rainy season, so we lose a lot of our flexibility in the operations.

East Range license, we were waiting for the beginning of the Q4 delayed two months. What is the good news here? That we have the full capacity for East Range in the next year. So, for 2021 our production guidance is a range between 315 and 335 million tons. What is the rationale for that? For the lower range, we consider our capacity today with some possible operational risk like raining or maintenance and we consider no evolution in our plant's recovery. It's a really more conservative number.

The higher range, what is the rationale? We consider that we will receive authorizations and the new assets will come aligned as scheduled. But we also consider some contingencies in some constructions in this upper range. So, we can have some upside here, but we also prefer to be more conservative here setting 335 as a maximum production for 2021.

Now we can go in detail system by system. Well, Northern System, our world-class assets, high-quality ores, low-cost OPEX growth platform. Logistics capacity plays 330 million tons. You know very well about this. What is the name of the game here? Opening new pits, licenses in ramping up the products. Good news is that we are progressing. I just mentioned that we obtained the installation license in Serra Leste, or East Range. This has already brought 4 to 5 million tons of production in 2021. In other words, the year will start stronger.

Let's move to Southeastern System. Well, here is the birth of our pellet feed production, so it's very important for our premium portfolio. The challenge here, it is a bridge from a lack of dam capacity, you remember the downstream dams, to the filtering process. Remember we lost the capacity in this system mainly in Brucutu and Itabira due to the problem of reassessing these downstream dams.



Almost 40 million tons can be allotted in short-term and they are related to tailings disposals. The first addition, Timbopeba, full disposure of tailings in all Timbopeba pit, so this set will achieve 12 million tons capacity from the current 5 million tons. Another increase for next year is Torto dam, a new asset coming now on Q4, adding 18 million tons capacity for Brucutu site. So, we can resume the full operation there.

Let's move to Southern System. This is a very important system for Vale. It's where we produce volumes that will create BRBF in China. It is a perfect match for our Carajás fines. We also produce pellet feeds and pellets here. That system was by far the most impacted with the upstream dams. What is the challenge here? We need to increase capacity close to upstream dams. Remember that we need to decharacterize the dams, Carlos just said this, and there are some interference with our logistics systems and mine operations.

For 2021, we expect to resume Fábrica operations and the good news here we already have the license to start the test in the pits. We are also expecting here to start up Maravilhas III dam and the filtering system in Vargem Grande, that will be very important to increase not only volumes, but also quality here.

To close the chapter of volumes, we have our plan to create the buffer capacity and I want to emphasize here, it doesn't mean that we will produce 450 million tons. If we don't have demand, we're not going to do it, but I want to address, here, three main important reasons to do that. We want to increase operational flexibility, strength and margin over volume strategy, applying the swing capacity approach and minimize any operational setback.

Just for example: Northern System. We already have in place the 240 project, you know, that's the expansion of S11D, 200 million tons, and upgrade of systems capacity, the rail and the port. But we also proved this year that S11 120, which in the first moment will increase only the mine plant flexibility, but after we approve the logistics solution, we will have a fantastic system with a 260 million tons capacity.

Well, other examples in the Southeastern System. We just submitted the approval of Capanema Project. You heard about this, you hear about this in grand detail in some weeks, which adds 40 million tons to Timbopeba site. And I want to drag your attention here. It is a US\$ 35 per ton CAPEX, very competitive.

We have assets, we have projects, we can bring back our capacity and we're going to do it. It's important to repeat: capacity buffer means operational flexibility to meet market needs timely. It's totally aligned with our strategic pillars and to maximize fly to quality in iron ore.



So, let's talk about cost now. Well, the resumption of capacities would also help to reduce C1 cash costs. The last quarterly results, we presented the C1 cost without the effect of third-party purchases. We purchase ore from third parties as an opportunity to optimize our supply chain or our product portfolio or maximize cash generation.

Before this analysis, we are looking only at the cost that we control. We can expect a C1 drop of up to US\$ 2 per ton due to the dilution of fixed cost. Another important aspect: destabilization of operation. Today we operate with a lot of contingency in separate operations and when we bring back blasting, dismantling, shorter trip truck travel or when we resume our long-distance conveyor belts, that you know very well in details that affects, for example, Vargem Grande, it'll help a lot to reduce our costs. In average, this can bring up to US\$ 1.5 dollars of gain. And finally, the future initiatives will bring a slight addition on cost. So, what you can expect for C1 here is a range between US\$ 10.5 to US\$ 12 per ton.

So, let's move to another very important part of the cost, the shipping costs. We have a winning strategy here, so despite the distance our long-term contract, especially for Valemax and Guaibamax is very competitive, below US\$ 13. I'd like also to highlight the scrubber strategy. Remember last year we talked a lot about this. At the beginning of the year, there were a lot of concern about the IMO regulations, but we didn't see any increase in our freight cost for this. In the end of 2021, the next year, almost the entire dedicated fleet we will have the scrubbers installed.

What you can do more? Eduardo just mentioned that the scope 3 agenda and we have a set of initiatives that we can call Ecoshipping. We are working with more than 20 institutions here, also in an open strategy environment. We already have testing this year, now, this year, new ideas and products that we can contribute to reach the IMO targets for carbon emission.

Let's move to our last part, our product and service portfolio. Well, Vale assumed the goal to reduce its scope 3 by 15%. This is a commitment in line with objective declared by government. You see in this chart all the map of the world. We will do it with our clients. Several initiatives are being implemented in the industry. The main question is which energy source for iron reduction will be proven feasible. One thing in common to all these initiatives: we need higher quality products to reduce iron.

We are acting in 3 fronts. It's very important, I want to emphasize this, 3 points, 3 fronts. We need to have premium products and we have the Northern System,



we have the concentration using filtration and the new steel. So we will be addressing one front the quality of the product.

Secondly, the trend is to skip in the first moment the sintering process, the steelmaking process. We are developing products for use as direct cargo. We already have the pellets, you know very well that. What we are now developing other ways to agglomerate fines with lower CAPEX and OPEX and that will be soon one of our main announcements.

The third front here is to be close to our clients, to develop other routes in the steelmaking process. Eduardo just mentioned that the HBI, and an example, we are evolving an alliance with COPE, Mitrex, Mitsui and our technology, technorap, to design better solutions to our clients' needs in an asset light platform. We can use our strength in product development and scale and supply chain to reduce the carbon emissions.

Well, through this initiative we can differentiate ourselves from our competitors. By 2024, around 90% of our portfolio will be of high-quality. Here I'd like to highlight again the new steel. My first slide showed that new steel will help to reduce the dependence on dams, but the beauty of this technology that we can also increase in a sustainable way our average quality. This will bring gains. We expect the enrichment of the portfolio in midterm; therefore premiums should return to \$10 per ton level. Considering they all average of our portfolio over 62 index. In the long run it can be higher as the carbon price will be more relevant.

Let's go beyond products. Our strategy is to be close to our customers, seeking for solutions to meet their needs. We have several initiatives in China. In the less 6 years, we are getting closer and closer with the expansion of the blending strategy. This type of initiative reduces our delivery time and bring premiums. So are inventories are close to the customers and ready for conception. 2020, we just launched the first grinding hub, the GF88, after observing our customers' needs for pellet feed production. We already have our IOCG inventories there and we just grind the same in China to attend the market.

Finally, we announce the partnership for the development of the West 3 project. What is this? It's the expansion of the port of Shulanghu. It is a Valemax port. It is a key port for Vale. Even the proximity to the Yantze river, being able to serve customers along that river, that they have restrictions to receive large vessels there. The expectation for this startup is 2025.

But before giving the floor to Mark Travers, I'd like to wrap up with some key messages here. We will reduce the use of tailing dams. Vale will resume our 400 million capacity per year. We have new assets that are coming online. We can



control this to support our resumption plan. Sooner or later, we'll be there. We are investing in capacity buffers to have 450 million tons of capacity. S11/120 and Capanema are some examples. And the flight to quality trend is here today and Vale is a partner of choice of the steel industry. Please, Mark, the floor is yours.

Mr. Mark Travers: Thank you, Marcelo. Good morning, good afternoon to everyone. Let me discuss how we're turning around the Base Metals business and becoming a meaningful contributor of value, helping Vale become a reference for creation of shareholder value. In Base Metals, we're transforming ourselves to be a safe and reliable cost-efficient producer, following the path that Carlos Medeiros explained earlier in the presentation.

How are we doing this? We're investing in our assets, we're rebuilding and refocusing our processes to bring in discipline, we're completing our investments in our replacement mines in Canada and we're executing our strategy. We've been on a journey for 2 years and it's taking hold. We are seeing results.

Today, I wanted to discuss with you how we're building on this solid foundation to seize the unique opportunities we have in nickel and copper, two commodities that the world will need in the decarbonization of the economy.

We have a strong portfolio of copper assets. They're low-cost, profitable and robust generators of cash flow. Right here you see a picture of the Salobo III expansion, it's an expansion of our Salobo mine, our largest copper mine, based in the Carajás region of Brazil. As you will see, we have tremendous organic growth opportunities in Carajás. They are available to us and they are real.

Let me talk about what's currently in the pipeline. On this slide here you'll see that we have a pipeline that will bring us to 500 kilotons of copper by 2025. It's Salobo III, which I mentioned previously. We are going to be expanding by early 2022, adding an additional 30 to 40 thousand tons of copper and we will receive a significant cash payment under our previously completed gold streaming transaction with Wheaton.

On the right hand side, you'll see two projects that are up for approval, either at the end of next year or early 2022. Alemão is a growth project, adding 60,000 tons of production, has very significant gold by-product credits available to it. So we see an opportunity here for a potential Goldstream transaction. In Cristalino, we have the opportunity to bring online 80,000 tons of production, which will come on-stream as the Sossego mine is coming to a closure, therefore keeping the current Salobo processing facility full.

This is a very exciting opportunity for us, but there's more. In Carajás, we've just completed about two years of intensive drilling. It will add approximately or it has



added approximately 1.9 million tons of copper, equivalent to our reserve base. When you combine that reserve base with the infrastructure that we have in the Carajás region, we have tremendous opportunities for further growth.

In Salobo, with the extra reserves we see the potential for another additional expansion of 30,000 tons past 2027. And on the right hand side of the slide I'll refer you to the Northern Hub, where we have three main copper deposits, Paulo Afonso, Polo and Furnas, which can add between 70 and 100,000 tons of copper after 2030.

Moving to the bottom, we have a number of surface deposits, small surface deposits, between the Sossego and the Cristalino mines, which we intend to bring on-stream post-2020, adding an additional 40 to 60,000 tons. And we have an opportunity to use the synergies with our iron ore business. In Cristalino, with the pre-stripping, we have significant and very valuable pellet feed that we intend to bring forward.

We also see opportunities to bring pellet feed from our tailings facilities in Sossego and Salobo. All of these opportunities are in the heart of our Northern Brazil operations, connected by our infrastructure, that can bring our copper from the interior of Brazil to the markets of the world.

In Indonesia, we also have another exciting opportunity. We believe we have a tier-one asset, project Hu'u. With our recent drilling and engineering studies, we believe we have the opportunity here for a 45-year plus life of mine project, producing greater than 250,000 tons of copper and 200,000 ounces of gold. This is an exciting opportunity, with good grades, high tonnages and low-cost, where we would be looking to prove this project post 2025 but, it's important to know, only with bringing along of a partner in its development.

Let's put all of this together. Our primary focus, as I said, is in the world-class Carajás mining area. In Carajás you could see that we'll move from 280,000 tons of production next year to little less than 400,000 tons in 2025, and with these other opportunities I explained, we can see ourselves going up to 550,000 tons or beyond.

In addition to that, we have the Victor Mine in Canada, a potential JV with Glencore, which will add another 30,000 tons of copper production and the project Hu'u, which I further explained. Put this all together and it places Vale as a large, relevant player, with a strong portfolio of copper assets.

Now let me discuss nickel. It is clear that nickel will play a key role in the decarbonization of our economy. Through the growth of electric vehicles and the use of nickel in those batteries, we see a great opportunity for ourselves. In Base



Metals we have a wide portfolio of products, including class 1 nickel coming from our Canadian mines. These products meet the needs of our customers, providing a wide range of opportunities, providing nickel to manufacturers with high-purity needs, as well as providing nickel to those producing electric vehicle batteries.

To meet CO2 reduction goals in the globe, nickel will be vital and Vale has a big role to play. But for nickel to play this key role in sustainability, how we mine is very important. At Vale, our nickel for class 1 comes from Canada, a stable jurisdiction with a clean power grid and strong ESG standards.

We believe we're in a unique position in Vale Base Metals. Our nickel, our class 1 nickel, is 25% less carbon-intensive than the average in the industry and we see many opportunities to improve. What have we done so far? Well, we've completed our 1.5 billion clean air investment in Sudbury. This has reduced with the closure or the decommissioning of the super stock has led to the reduction of GHG emissions from our smelter by 40%. It has also reduced SO2 emissions by 85% and nickel particulate emissions by 40%.

As we mentioned in the video, we have 25 electric vehicles in the underground mines of Sudbury, moving to 40 by the end of next year. And then we move into the next horizon, where we look to bring dramatic reductions for our carbon emissions. We will look to replace our diesel fuel with electric energy in Voisey's Bay. We will look to flow sheet introductions to decarbonize our reduction kilns in electric furnaces and introduce biofuels and biomass in the future.

I'd also like to point out a very interesting opportunity, which is in the recycling of the material coming from spent electric vehicle batteries, as well as batteries that are manufactured off-spec. It's a small amount of material right now, but it will grow to dramatic amounts in future years. We are currently studying the introduction of this material into our current flow sheet in Canada, both our pyro and our hydro facilities in Canada.

Let's have a look at each of our nickel operations in Base Metals. In North Atlantic we're working to stabilize our production in future years and increase our productivity. We will be completing our replacement mines in Voisey's Bay and Copper Cliff in the coming years and we have a number of opportunities that we were looking at to improve our operations.

We're currently well underway with our Thompson turnaround, which is aiming to bring productivity improvements to our operations. And we have a significant exploration program, looking for those incremental smaller deposits in places like Sudbury, but also looking at larger potential mines to meet the electric vehicle



battery needs, such as the ultramafic in Manitoba, which we are currently studying.

Moving to Onça Puma, we've just completed the overhaul of our electric furnace and we are looking to stabilize our production. In fact, we had one of our best months in November. With the stabilization of the Onça Puma, we can generate a US\$ 15,000 a ton nickel, between US\$ 40 and 50 million a quarter in EBITDA. And with the stabilization, we're looking to bring forward a second furnace at Onça Puma. It will bring our production up to 40 kilotons of nickel, it'll have a long life of mine, low CAPEX intensity, it is a great project-add to the Base Metals portfolio.

At last Vale Day, I spoke about our potential projects in Indonesia. We're still working hard on those projects in Pomalaa and Bahodopi. These two projects together represent about 110,000 tons of production in future years. We would own 100% of the mine and we would take our joint venture share of that 110,000 production from the process facility.

In summary, we're de-risking and stabilizing our production. With our current portfolio, we have the opportunity to increase our production from 200,000 tons per annum to 220,000 tons with the introduction of the second furnace in Onça Puma. But on the right hand side, I'd like to point out the potential. As I mentioned, the 110,000 tons of nickel coming from Pomalaa and Bahodopi, Pomalaa representing an HPAL project with potential feed for the electric vehicle industry and Bahodopi representing nickel NPI production for the stainless steel industry.

And as I already mentioned, we're looking to significantly increase our opportunities to find those new mines to continue our life of mine in Canada, whether it be Voisey's Bay, Sudbury or Thompson. We're looking at Brownfield expansions and we're looking at those surface deposits and looking to make feasible larger projects such as the ultramafic in Manitoba.

To wrap-up, let's talk about where the nickel business is today and where we expect it to be from 2025. In 2021, you'll see we have a very significant CAPEX program, as we build those replacement mines in Voisey's Bay, in Copper Cliff and Sudbury. However, we are cash flow positive to the tune of about US\$ 200 million, this assuming a US\$ 15,000 a ton nickel.

As we move over to the right and look at 2025 and we reduce our CAPEX in the coming years and as we introduce the improvements and the stabilization and the productivity gains, you can see the significant Improvement in cash flow generation. Again, this is a US\$ 15,000 a ton nickel. And with the improvements of about US\$ 800 million, we will generate in excess of US\$ 1 billion of cash flow.



Again, at US\$ 15,000 a ton nickel. With each extra US\$ 1,000 a ton, we generate an additional US\$ 220 million in cash flow.

In summary, we're turning around and transforming the Base Metals business. We're stabilizing our production in nickel, we're becoming a safe and reliable producer. We're investing in our future. We're prepared to seize the opportunities to grow our copper portfolio, primarily in Carajás. And we're preparing our nickel business to seize the opportunity to take advantage of electric vehicle growth, all of this to become a meaningful contributor of value within the overall Vale business. With that I'll pass it to Luciano Siani to talk about capital allocation.

Mr. Luciano Siani: Thank you, Mark. So, discipline in capital allocation is our fifth strategic pillar. And to think about capital allocations is to think as owners, we do think as owners and to allocate capital we need to understand where capital generates the most value, what is the story of generating value for Vale, what is the equity story for Vale?

In our minds the equity story has three components. The first one is de-risking. Because of the higher perception of risk, you see less value in Vale. De-risking goes through the addressing of the reparation, the liabilities of Brumadinho, improvements in dam safety, improvements in ESG practices, the resumption of production. The share prices are falling today, because maybe you didn't like the production numbers for next year, because you're seeing risk. But have no doubt, we are allocating capital to reduce risk, we are allocating capital in the safety of dams, reparation of Brumadinho, production resumption. If there's one thing that Vale has done very well in the past is to bring projects to life. So have no doubt: S11D plus 20 is coming, Capanema is coming, filtration is coming, the new dams are coming, so the production will resume.

On reshaping, which is the second part of how to allocate capital to generate value, we need to focus on the core business, we need to control our cash drains. There's a US\$ 2 billion opportunity lying within Vale just by fixing the cash drains, which I will address. And also, the growth opportunities, they are plentiful. Nobody's as well positioned as we are in iron ore, nickel and copper to deliver growth.

And finally, there's the re-rating story, which are the five ambitions that you can read that we talked about to an extent, all of this underpinned by sound cash flow generation, which will be mostly distributed to you.

So, let's start addressing some financial aspects of de-risking, let's go to the main hot topic, which is Brumadinho. This chart shows the financials of the Brumadinho reparation. That does not include decharacterization of dams. If you look in the



middle, we have spent so far, as of October, BRL 12.1 billion in reparation, with a breakdown to the left. If you move to the right, you'll see that there are still BRL 9.5 billion in provisions in our balance sheet and there is a footnote indicating that, should there be an agreement, there's an additional BRL 8 billion to be provisioned. If you add all of that, the best estimate that we have today for the full cost of the full reparation of Brumadinho is BRL 29.6 billion.

But pay attention to the grey shaded areas, which sum up to BRL 19 billion. Everything which is in grey is in the scope of a potential agreement. And interestingly, they're amounts already disbursed that are in the scope of a potential agreement. And why is that? Because those amounts, they were disbursed according to previous agreements that specifically say in their provisions that, should there be a master settlement or a court ruling, those amounts will be deducted from the collective damages or compensation payments on those settlements or rulings. So, we have BRL 3.6 billion that already count towards an agreement. So therefore, today, what we have in our balance sheet is BRL 19 billion earmarked for a potential agreement. We believe this amount is fair and is adequate. And for an agreement to happen, the numbers need to be in this ballpark.

Now I'm going to move to dam decharacterization, another important aspect of de-risking. On the left-hand side, you'll see the schedule of decharacterization of dams. And on the right-hand side, you'll see the updated cash outflows in US dollars. There is an increase of 670 million, which will be recorded in the provision of the year-end and why is that? Basically two reasons: first, we will need to build additional backup dams for all the structures to be decharacterized beyond the structures which are in critical level and also we are advancing in the engineering studies for the proper method of decharacterization and we are perfecting the numbers and therefore we have additional provisions.

Moving on to reshaping and fixing our cash drains, every one of you know that we have at least four assets: Samarco, the coal asset in Mozambique, VNC and Renova, which consumed cash. If you look at the right-hand side, on the column of 2020, you have a little over US\$ 2 billion consumed in cash in 2020. And in 2022, two columns to the right, we expect those amounts to be around US\$ 500 million in just two years.

And why is that? Because we're achieving some milestones and we have ongoing measures, starting by Samarco. Next week, production will commence, and iron ore will flow through the equipment in the Samarco process plants. And pellets will be produced by the end of the month. With the prices where they are, we do expect that the cash flow needs of 2020 will revert eventually even to zero in 21 and in 22.



Coal in Mozambique: the revamp is going on well, according to schedule; It shall finish in March, the ramp-up will follow and hopefully by the second half we will be producing at a rate of 15 million tons. Therefore, the cash consumption was still behind in the first half, but will diminish dramatically in the second half and with a full year of 2022 at 15 million tons, the cash outflow will be 200 million, mostly because of the burden of the project finance, because in operational terms the business will be making money. And remember, fixing the asset is a precondition for exploring strategic options with coal.

Vale New Caledonia: the care and maintenance plan is ongoing. The numbers you see are related to the care and maintenance plan. We shall spend in 2021 with care and maintenance around US\$ 350 million and then, from 2022 onwards, a number which is going to be lesser than US\$ 100 million. However, there is the ongoing transaction with a consortia with the presence of Trafigura. There may be signing of an agreement in the coming days. If that is the case, the package of support of Vale will be similar to what we announced already for New Century and we hopefully will have a smooth exit, and again, by 2022 will not be spending money with VNC.

And finally, on Renova, there's an uptick in 2021, but for good reasons, because we are now in the process of accelerated indemnification of the communities, thanks to the court rulings of 2020 that allowed us to go directly and deal with them. So, 21 will be a peak year and also from 2022 onwards the numbers will decrease. So, look at the opportunity. Yes, there's money that will be spent, but after that the cash outflows will be much improved.

But it's not only about fixing, reducing risks and fixing the business. Look at this honeycomb here, where we outline all the projects, we've be talking about in iron ore, in copper and in nickel. The key message here is that beyond everything which dominates our story today, of risk, of production resumption and so on, there are lots of opportunities coming, accretive opportunities, marginal CAPEX opportunities, which will lead us to 450 million tons of capacity in iron ore, a target of 900,000 tons in copper and 220,000 tons in nickel, plus another 110 in our JVs in Indonesia. So, I ask you: who else in industry has those opportunities in such great commodities as iron ore, copper and nickel?

How much will all of this cost? The capital expenditures have been updated. You should expect a normalized level of capital expenditures, to the left, of US\$ 5.5 billion going forward. This is up from 4.5 that we told you last year. And why is that? That's because of the many strategic decisions that we made in order to make all of this happen, which are on the right. We are going to be very bold on reducing dependency on dams, the filtrations are being anticipated, the new steel technologies being employed for dry concentration.



We're changing our energy matrix, Eduardo just announced the Solar do Cerrado project, which will reduce energy costs. We're replacing production capacity, we're building the capacity buffers, as I mentioned, S11D, 120, Capanema. We have the low-carbon agenda with new products. There's a lot coming online and honestly, if you compare to our competitors, still a very low level of CAPEX and a very efficient use of resources for all that we are proposing to do. And because CAPEX continues to be low, the cash flows will continue to be plentiful.

These are our updated estimates. If you look to the left, EBITDA in 2023 with all those improvements, with all the volumes coming in, with all the replacement of capacity in nickel, with Salobo III coming online, EBITDA will increase for a given level of prices substantially. And to the right, we took the average, the accumulated free cash flows for the three years and if you add them up and you average you'll see that the free cash flow yields, considering a market cap of US\$ 75 billion, are very, very considerable and should merit your attention.

What are we going to do with those free cash flows? Well, as you know that depends on the balance sheet and what is the status of the balance sheet? If you look to the left, you'll see our expanded net debt. We forecast financial net debt to be zero or slightly negative by the end of this year. So, therefore our expanded net debt is mostly comprised of other liabilities. Leases, currency swaps and Refis, the tax refinancing, they have a specific schedule and payments which are defined, whereas the Brumadinho provision and Renova Foundation are expectations. So, we will be at US\$ 11 billion at the end of the year, including the new provision for dam decharacterization that I just mentioned.

And to the right you see what the trajectory of this expanded net debt will be, considering 100% of cash flow distributions beyond the CAPEX that I mentioned there. So, the trajectory is very virtuous and because we look medium to long-term, there are no obstacles to distributing 100% of the cash flows of Vale going forward and perhaps even more. With all of that and bearing in mind I hand back to Eduardo to make a closure on our story of de-risking, reshaping and re-rating.

Mr. Eduardo Bartolomeo: Okay, thank you, Luciano. I won't dare to try to repeat your great presentation, but I want to reinforce a very specific point here. We are with our team committed to work with transparency, with focus and on discipline. Every time that we talk to the market we talk, it's not a sprint, it's a marathon. If we go through each one of these dealers here is extremely transparent where we are, where we are advancing, we are starting to move from a story of just de-risking, starting to build the story of re-rating Vale to create a much better company and, just to conclude, I believe that the ones that will join us on this journey will reap the benefits of one of the greatest share creation, value creation, I believe, for sure, in the mining industry, as Luciano already mentioned.



With that I would like to hand over to Ivan that will lead us through the Q&A, so we can give more clarity on your doubts. But count on us to deliver on what we committed. As we did last year, we came here this year and we said exactly where we are and we're going to come next year and tell you exactly what we were able to do in 2021. Thanks again for your attention, this virtual setting is a novelty for everyone, so now back to Ivan to try to coordinate our Q&A virtually again. Thanks, Ivan, and thanks for your attention.

Mr. Ivan Fadel: Okay, thank you very much Eduardo and all the executives for the great presentation, very detailed [...]. So, as I said in the beginning, we received questions in advance, we received questions during the presentation and thank you for that, and we're trying to group the questions here so be sure we will address most of them or where we see a lot of level of interest.

So, maybe starting with one question here to you, Spinelli, on iron ore production. So the question is related to what are the main challenges that Vale faces in achieving this goal of a capacity back to 400 million tons and I think people want to know, investors want to know, how much of that growth is in our own hands and how much depends on the government's licensing and goodwill and also how much buffer do you think we will have to reach the guidance in case something goes wrong? So, in fact, how challenging are these additional volumes beyond 400 million tons? Thank you.

Mr. Marcelo Spinelli: Thank you, Ivan. It's always an opportunity to clarify what we're doing here. It is important to say that we are planning to deliver. So, I think we had a frustration this year, during 2020 and we're addressing our planning to guarantee that we are going to be reliable, so this is one message I want to address here.

Remember that we have three main systems. I can say that the Northern System, the Southeastern System we have actions that are in our hands. So obviously we need, Ivan, authorizations to start-up some operation, but I can say that it's business as usual, so it's nothing that is different from the common process. So, North and Southeastern, we need only to deliver what we are bringing, the new assets and the license of pits.

In the Southern System it's quite different. Here we are counting on authorizations, prosecutors, remember that we have to test, we have a mining agency in Brazil checking all the evolutions we had regarding the upstream dams, so remember that we are not counting on that to reach the 400 million tons. So, in our plan the Southern System is more for a mid to long-term, we're counting only in the buffer capacity, so this is one point that I wanted to say.



The other is the planning for next year, if you have any buffer for that, yeah, we have the contingencies, we already planned the heavy rainy season that we are expecting with the La Niña, so is already there. Another point is that we're not counting any downstream dam, so if you evolve in any of them in terms of safety and assessment, we can have back these assets and anticipate some evolve, but we're not counting in our guidance of production.

And the extra buffer for the future, I want to emphasize another point that Luciano said, those projects, the S11, the 120 and the Capanema, they are Brownfield projects, Greenfield, we know exactly what we need to do, we know the site, we know we have the design for that, so the risk is lower when you're planning in the near future. So, for next year we are confident that we can deliver our guidance, we have some possibilities, some upsides, but as we have so many actions to do, we prefer to be more conservative in this guidance for the maximum production for next year.

Mr. Ivan Fadel: Okay, thank you very much, Spinelli, for your answer. Maybe moving on to Base Metals and VNC and I think this is to you, Mark. The question is: Vale entered into this exclusivity agreement to negotiate the sale of VNC with Trafigura and this exclusivity is close to its expiration. And what could you comment about the negotiations, whether Vale is optimistic with a positive deal out of this and also if you can refer to the protests of those opposed to the deal on the ground and what would be the alternatives and timing in the case that the deal falls apart? Thank you.

Mr. Mark Travers: Thanks, Ivan. Maybe just stepping back, we've been working tirelessly since the end of 2019 to exit New Caledonia. We put a lot of effort into selling the business. As was mentioned earlier, we did have a deal with New Century that unfortunately could not be completed and it was followed by, as was mentioned in the question, an exclusivity arrangement with a consortium, which is a combination of the management team, as well as Trafigura, as well as some other shareholders, including employees.

That offer needs to meet certain parameters. We feel that it checks the boxes in many ways. There is a clear plan for sustainable operations following our exit, it maintains employment, there is broad inclusion and representation among the society of New Caledonia and its employees, so in summary we continue to negotiate on that and as was indicated in the question is two days away and I can say at this point we're hopeful and will certainly be bringing updates in the coming days.

Just maybe reflecting a little bit on what we've been presented with in the current situation as was intimated in the question. So, this offer that has been put



together, this non-binding offer that was a subject of exclusivity is a rather unique construction. It has very strong governance in shareholding protections, it's a made in New Caledonia solution.

If you look at the proposed share structure, while it does have some investments from Trafigura and potentially another party, the vast majority, approximately 60% of the shareholdings, would be a combination of the management team, the employees, the current New Caledonian shareholder, SPMC, and there's a number of shares that are open and committed for the indigenous tribes surrounding our plant, as well as civil society. So, it's quite a unique structure and, as I indicated, it supports the continued employment of the current employees of the plant.

One of the other things that we've done is we've made it very clear we committed to a sustainability pact for the indigenous groups surrounding the plant back in 2008 and we've made it very clear that we will always guarantee those payments, no matter what happens, whether it's in the conclusion of a deal and a new party own it or in care and maintenance.

So, coming now to the question about protest, there are protests on the island, there are currently some blockades that are preventing the operation of our mine, although the plant is currently operating. We feel this is a minority group, it's a minority group that is completely dedicated to directing the ownership of the plant to another consortium, which is a group that is a partner in the Northern Project in New Caledonia, as well as Korea Zinc.

We looked at this offer in good faith, it was found wanting, it didn't have a clear plan, it didn't have financing and unfortunately it has led to some protests, which are causing us some great difficulties, so we hope that the robustness of the current deal, which brings in broad representation within New Caledonia community, including the indigenous groups, will win over the people as something that's in their best interest, because we truly believe it is.

Now, the final bit of the question I believe was around the alternatives. We made it very clear that we will exit New Caledonia and our timeline was the end of this year and we are committed to that path. And while we are completely dedicated and working as hard as possible on completion of the current offer with the management team and Trafigura, if it does not proceed, we will proceed along the path of care and maintenance. And we've been planning for that, because we have to plan for that in case it doesn't plan out. Now of course we will have to go to the workers council and work in consultation with them, but that would be the next step.



And I believe the last part of the question was around the cost. I think Luciano set that out in his presentation, the care and maintenance cost he referred to next year of approximately 350 million. Of course, that depends on the consultation process and the timing and whether some of that money is brought forth from 2022 or post 2022, but I think Luciano's figures are a good indicator of what to look for.

Mr. Ivan Fadel: Okay, perfect Mark. Thanks for your answer. So now we can move to the Brumadinho potential agreements and I think this question goes to Eduardo and also Alex D'Ambrosio. So, the question here is if we could give any update on the discussions with the state of Minas Gerais and the public prosecutor's office. If there are any bottlenecks or difficulties along those negotiations and what would be any expected achievements along the road and how optimistic is Vale on the conclusion of those ongoing negotiations and there are one next week, so also if you can talk about the amounts of claims that have been discussed or any other detail that would be appreciated. That question was asked a lot here in advance and during the presentation. Thank you.

Mr. Eduardo Bartolomeo: Thanks, Ivan. I'll ask the help from Alex, but let me just give the frame, I think it's more important than the details. What we are aiming at? We're aiming at the agreement that has governance, that has legal certainty, that will allow us to execute on the reparation, on the compensation. That's very simple. Why we say encouraging? Because there's a new process going on, we had already two audiences, two hearings that we're discussing with the litigator that Alex can detail a little bit more later and of course that brings more convergence to the discussions. That's why we believe it's encouraging.

So, the first milestone that we're looking at is to get down the framework for the governance. When we start talking about values, obviously we believe that the values have to be reasonable, acceptable in a large frame, because they have been discussed before. That's why we put them on the footnotes and Luciano mentioned that in his presentation as well. But we're not there, we're still in the first phase of trying to reach this frame, this legal frame, to allow us to execute whatever amount we agree upon.

So finally, on a process like that, it's not that in one meeting you're going to solve at all. We just said we already had two meetings, productive meetings. We're going to have another one, I believe next week, on the 9th, and we are, as mentioned several times here, in extremely good faith to try to reach this framework and settle the compensation, the reparation. That's where our minds are and talking about to be optimistic, I don't think it's the case, but I think it's the fact that we were never so close, I think.



We are on a process that with the mediation we believe there are possibilities that to happen, but without any timeframe. This question looks like the dividend question, it's like when are you going to pay dividends? This is not something that you can grasp, it's a process that has to be taken in very, very care to protect the affected communities, to protect the stakeholders, to protect the state of Minas, to protect Vale, so it's a complex process. And will be dealt with a lot of transparency, as well, and when we get to it will be for sure a win-win solution for both parties, for both no, for the several parties around. But I'll ask Alex to give some more granularity, because he's the one that is leading the discussion through the mediation chambers.

Mr. Alex D'Ambrosio: Thanks, Eduardo and thanks everyone for the opportunity to discuss, to raise this question. Well, Eduardo mentioned that we're certainly encouraged by this mediation process, because it provides us with a structured environment to have a constructive dialogue. So even if the mediation is conducted within the Court of Appeals of Minas Gerais, it's very different from a court hearing. It's very different from a court hearing because it does not result in rulings by the judge. Instead, we see this as an opportunity to find common ground and reach consensus on some key issues.

The most important of these issues, as Eduardo mentioned, is the governance and finality of the potential agreement, so it has to be something that will close most of the government's claims. In broad terms, I'll talk, I'll explain to you that the agreement is meant to address three major chapters, so to speak.

First, there should be an amount paid by Vale to address collective damages and this would be a payment obligation that once paid would release Vale from all collective damage claims. These amounts would be managed by the affected parties themselves with court supervision, but without Vale's involvement in this management. And this would be a capped amount.

The second chapter would be a payment to be utilized for funding infrastructure in mobility projects by the state government. These funds would be managed directly by the state government and should be focused on priority projects that are intended to boost local economy. This would also be a payment obligation by Vale, which once made would acquit Vale from compensation obligations to the state. Vale wouldn't have any involvement in managing these funds and this payment would also be capped.

The third section has to do with environmental reparation, and we've based the estimate of that investment on technical studies that provide us with a list of projects that are required to restore the region's environmental damages. These projects and the investments related to these projects must be defined



beforehand in the agreement and that's what we're discussing a lot right now and Vale would assume the obligation to execute these projects. And this chapter represents performance obligations by Vale that are to be monitored by the court, with technicians to attest delivery. And for this chapter there'd be a firm estimate, but no capped amount. And it's important that once performance is attested by the court, then Vale would be released from these obligations, so that's what we call the finality. Some are payment obligations that once made would acquit Vale from those obligations and the other are performance obligations that once attested would release us from obligations.

Now, it's important to clarify also that this agreement is being made with government authorities and not with individuals who may be entitled to individual compensation. For those, we will continue to pursue individual settlements with families who suffered damage and we have been successful so far in making settlements with more than 8,000 people through mediations that are conducted on a case-by-case basis directly with the individuals who feel that they've suffered damage.

So, a potential agreement with the government will not affect individual claims and will not preclude future settlement, so I think part of the question as well will these agreements close off and settle all claims? No, the individual claims will be discussed one by one.

Also, as Eduardo mentioned just now, it's essential that all government authorities, including the federal and state prosecutors, adhere to any potential agreement. This is, in our view, fundamental to ensure the legal certainty that we have no one left out from the government side.

I think with regard to the lawsuits that we're facing, the effect of this potential agreement in our view is that the collective civil actions would be suspended and Vale then would receive formal acquittal for those matters that are expressly covered by the agreement. The remainder, if any, would continue to be consolidated and continue to be discussed by the judge waiting for the performance to be completed. So those claims would be combined, single legal proceeding and once Vale delivers there will be acquittal for each one.

As Eduardo said too, we can't give you an estimate about timing, we believe and hope that an agreement is possible, and we are definitely prepared to continue discussions with the government until we reach an agreement. But there's no final date, there's no drop-dead date for these discussions, so they will continue as needed. But it's really important to remember that Vale has already been executing many, many reparation projects and will continue to do so, regardless of the conclusion of any agreement. We have already committed to full reparation



of Brumadinho. So, we say that while an agreement is certainly desirable, it's not a precondition for Vale to carry on the reparation. So, I hope that answers your questions. Thanks.

Mr. Ivan Fadel: Thank you very much Eduardo and Alex, I think it was a great explanation for a question that we get a lot, so thank you very much. So maybe now moving to dividends and perhaps this can go to Eduardo and Siani. The question here is what are the possibilities of dividends for 2021 above the minimum dividend policy and how that final agreements of Brumadinho could impact these extraordinary dividends along the way?

And looking out 3, 4 years when iron ore production is back to 400 million tons, how should we think about capital allocation and should we just expect capital returns to shareholders or are there interesting and perhaps material projects that Vale is considering investing to drive growth?

Mr. Eduardo Bartolomeo: Thank you, Ivan. It's a long, long, long question like several dimensions. Let's try to be brief, because I think Luciano can give more color as well. I think there's a main mindset behind everything we're doing here. We want to be consistent and predictable on our shareholder remuneration. We want to look back five years from now and look to a very different picture from the five years from now. So, we want to have the opportunity to whenever we are fully complied with our financial and non-financial obligations in natural returns to a shareholder. I think Luciano was extremely transparent and clear when he mentioned that. So that's our goal, that's our capital discipline and that's where our minds are. That's very important to bear in mind.

Options to do that, buyback, extraordinary dividends, things that have to be managed at the time that they have to be managed. We have a policy that was established in 2017 that defines minimum dividends and as we did in the last quarter, last semester, we assessed market conditions, we look at the trajectory of our expanded debt and we felt that we could pay an extraordinary dividend. Are we going to do that in March? We will assess again, then we'll have to look at it, if it's the case, yes, it's possible. So, I think this is a more broad conceptual, philosophical question.

When you look five years on the road, as I mentioned, if there are any attractive opportunities, Vale would look at it, sure. But I'd still think we are in the homework phase of rebuilding the company, so our focus, and I think I Luciano will reiterate that, we have enormous opportunities inside our house, enormous! Who has what we have? We can grow our iron ore, create flexibility, swing capacity, we are not going to flow the market, we will always stick to the value over volume, but we need to create flexibility, we can invest in our core business.



Copper, I'd like to say is the dream, the copper dream. I think we missed the point in Carajás, we have a tremendous opportunity in Carajás, a tremendous opportunity when we have the synergy with iron ore, we can allocate capital there. So and there are others in ESG as well that we are looking at it with an attractive options because going green, I don't think is going spending money, I think we're going to make money with that, by the way, so there are several options to allocate capital but, bear in mind, our mindset is after we comply with our commitments and even the specificity of the discussion around Brumadinho's settlement, an agreement is an agreement, if it's nothing it's something reasonable or in a ball range that makes sense, there's no agreement.

So, it will impede us to pay a dividend extraordinary? No, because it goes again on a directional phase, but again we cannot expect numbers that are, and Luciano again was very clear on that when he did his presentation, that goes way out of what we are already discussing, because it doesn't make sense to have an agreement like that, it's not reasonable. So, I don't believe that the agreement wherever we finish them we would not be the fact not to pay an extraordinary dividend. And I will ask Luciano just to add up to my reasoning, because he's very good on time thoughts. Okay, Luciano, please.

Mr. Luciano Siani: As you saw through the numbers, the trajectory for expanded net debt is very good, so an additional provision for an agreement will not change the overall picture of this trajectory. So therefore, we should be able to pay extraordinary dividends, even with settling an agreement, obviously under market conditions similar to what we've been having throughout this year, absent something unforeseen, so that's the goal.

Having said that, in March usually we are in a seasonal low in terms of cash flow generation and the minimum dividend for March will already be very substantial, because it will be calculated based on the second half of this year, so I would say for a calendar year 21, very likely extraordinary dividend, for March it will depend on the situation then. And we will not vary with a potential agreement.

Longer-term, just to bear in mind that the days of US\$ 10, 12, 15 billion of CAPEX are over. These were the days of the super-cycle. Everything that we do now is to build upon our platform, so everything is marginal in terms of CAPEX. So whatever we pursue in terms of growth opportunities does not change the big picture that cash flow generation will be an order of magnitude above any spending on marginal opportunity. So therefore, the expectation is that still after we generate 400 million, that we will return most of the cash flows to shareholders.



Mr. Eduardo Bartolomeo: And Luciano, just to grab with your comments again, because this is a very tricky point, right, because we have no control on the market conditions, we have no control on where the market are. Although the first quarter could be seasonally low on volume, it could be seasonally high on price, so we don't know. That decision will be always assessed at the moment, looking for where we are, looking at the trajectory of our commitment or trajectory of our markets and then we decide. The philosophical point is when there is an excess of cash then we'll match a return to the shareholders. That's the main point I think that I want to make and we, as a team, we agree with that and of course we suggest to the Board, because the final decision is made by the Board.

Mr. Ivan Fadel: Thank you very much, Eduardo and Luciano. So, moving on and back to you, Spinelli, the question here is on iron ore sales and shipments and it is: how could Vale adjust value over volume strategy, based on where spot prices are and could Vale de-stock more aggressively in 2021 to supply a market that is currently running on a deficit? And how to manage volumes in a scenario where iron ore prices persistently are above US\$ 100 per ton? Also, if you can comment about mix and year-on-year growth, this is also part of the question here, it's one of the questions we get the most. Thank you.

Mr. Marcelo Spinelli: Thank you, Ivan. Well, you can say my sales team is missing me, so we need to focus on production, so that's the main message for this moment. If we have a great price, we need to deliver volumes, so that's the first comment I'd say, adjust value over volume strategy. Remember that we always access, every week actually, we maximize our margins and what's the best supply channel, best way to sell our products every, every week we do it. So today, when we blend, we maximize the value, so that's the main message here.

And you asked about mix, Ivan. This year we will reach 150 million tons of BRBF, it's an amazing success, almost 14% growth comparing to last year and next year you keep growing, not in this pace, but we have a slight growth comparing to this year. So, that's the mix and there's another thing that I want to emphasize, we did this in our quarterly results call, that we don't use our inventory to speculate, we have an operation of inventories, so let's burn the inventory and sell and make money because the price is high. We cannot do that, because we have the lead time to have the blend and sell.

We had a gap in the last quarter, remember that the gap of 17 million tons to restore this pipeline. We don't have any planning to have any other huge gap for next years, actually. Gradually we need to do this, as we grow in China, as we grow with our BRBF, we need to add some inventories, but not like we did in the last quarter because the last year we decreased a lot because of the disruption of Brumadinho. We don't see this anymore. So, for next year shippings and



production and sales should have the same number, so we don't forecast any gap in terms of inventory for next year.

Mr. Ivan Fadel: Okay, thank you very much, Spinelli. So now the question on safety standards to you, Medeiros, so the question is: Vale has demonstrated a sense of priority and safety topic since Brumadinho with new standards and practices implemented, however it is hard to observe the evolution day by day. How is Vale today compared to peers and how does it intend to be in the medium-term and is Vale committed to being a first adopter and advocate for the new tailings dam safety initiative standard? And how have we demonstrated this? Thank you.

Mr. Carlos Medeiros: Thank you, Ivan. So, start with the safety. So I'd say that Vale is now demonstrating much more than a sense of priority, because priorities change through time. So, safety for Vale is a value, so values don't change. So, as you saw in my presentation, we are making significant progress on the occupational health front, so we're moving the exposure from more than 23, 25 thousand to 19 thousand this year and our objective is to reach 11 thousand by 2025. So, this will make our job sites healthier.

On the occupational safety, we have been focusing on reducing the high potential injuries, so since 2018, so our average reduction is about 20% per year and our goal is to reduce this type of injury to zero by 2025.

On process safety, all the details are covered through the HIRA in terms of risk mapping and also establishing and monitoring the critical controls. When we look at the ICMM statistics to compare against our peers, you know, just looking at 2018 and 19 data and obviously excluding the Brumadinho tragedy, Vale's performance was pretty much average and we are obviously working on this to improve Vale's performance overall.

Now, moving to the dams, recently our Board of Directors, they have approved a policy for dam safety and the geotechnical mining structures. So this policy is a public document and is available in our website and this is one of the global standard requirements like the engineer of records, as well, and, as I mentioned, their reports will be available through our ESG portal during the first quarter of next year.

Our initial assessment indicates a very high level for adherence between our tailings management system and the global standard and obviously this is based on our current understanding of the standards requirement. During the beginning of next year, ICMM and the co-conveners, they will come up with the guidance about the implementation and then, after looking at this guidance, we'll be able



to come up with a more accurate position, but anyway, we believe that we are in a very good position to complete the implementation by the end of next year. So, and this is basically because we started, you know, the review of our tailings management system more than a year ago. Thank you, Ivan, back to you.

Mr. Ivan Fadel: Thank you so much Carlos and, mindful of the time, let me go to the last question here and then we'll have closing remarks as well, so please bear with us. So, the last question will be about capital allocation and this is to you Luciano. So, the question is can you talk about the strategy regarding liability management, given that you expect to be within the expanded net debt targets? And is there an opportunity to highlight the ESG efforts you've been making by pursuing a sustainability-linked bond, which could also help to extend the debt maturity profile? Thanks.

Mr. Luciano Siani: Okay. As regards liability management, the market is very good for funding, but is very bad for repurchasing our outstanding bonds. So, we will develop a strategy minding these two realities and yes, there is an opportunity for an ESG-linked Bond. It's very important for us not only to talk about ESG, but to have someone else from the outside signing off on our progress.

That's why we're so happy with Moody's upgrading our ratings based on ESG improvements, with Fitch updating our ratings based on ESG improvements, with Sustainalytics improving our assessment based on ESG improvements and an ESG bond will fall into this category, we would assume commitments to the outside world, we will be tracked, followed and hopefully we would even fund ourselves at lower costs and yes, we're looking into this.

Mr. Ivan Fadel: Okay, thank you very much Luciano. And then now I will hand over to Eduardo for his closing remarks. Thanks.

Mr. Eduardo Bartolomeo: Thanks, Ivan. First of all, I would like to thank you all for your attention in these two hours. It's long, but I hope it was useful and fruitful for you and we reaffirm the things that we've been saying since day one: Brumadinho is our number one priority, we will repair it, we will learn from that and we'll build a much better company because of that as well.

I think we outlined today the roadmap from coming from the de-risking, that there is a lot of stuff to be done, you saw there in the dashboard. We are reshaping, we are focusing, we are putting our mouth where our money is like in the VNC, we mentioned that last year in Vale Day and we are re-rating, re-rating is our dream. So we have to get there, I think, as I mentioned that we have a roadmap for that, but, as important, we have a very, very committed team, not only in the Executive Board, but within our seventy thousand employees to make that happen.



So, again, it's not a sprint, it's a marathon, but the ones that will come to run with us for sure will reap the benefits of a big value creation both for society and for the shareholders. With that, again I thank a lot for your attention and Ivan asked me to pass him back because there is I think there is the research...

Mr. Ivan Fadel: Just one more thing related to our survey, so please before you go, please scan it and answer the survey, because it's going to be very helpful for us where we did well and where we can improve, so we can continue to improve our communications to you all. So, again, thank you very much for your attention here and see you soon.

Mr. Eduardo Bartolomeo: And see you next year, hopefully, physical.

Mr. Ivan Fadel: Indeed, thank you so much. Have a great day everyone.

Mr. Eduardo Bartolomeo: Thank you, have a great day everyone as well.