FIRST QUANTUM MINERALS

# ESG DAY

## Tuesday, June 13, 2023

## 9.00 am ET

**CORPORATE PARTICIPANTS**

**Opening Remarks - Tristan Pascall,** *Chief Executive Officer*

**Approach to Climate Change - Simon MacLean,** *Group ESG Controller*

**Innovation Driving Sustainability - Gordon White,** *Group Mining Manager*

**Social & Community Engagement - Ercan Balci,** *Group Social Coordinator*

**Health & Safety - Teza Kasengele,** *Safety Manager, Kansanshi*

**Biodiversity - Andrew Hester,** *Group Environmental Manager*

**Biodiversity - Blanca Araúz,** *Biodiversity Superintendent, Cobre Panamá*

**Closure & Rehabilitation - Maria Hänninen,** *Environmental Manager, Pyhäsalmi*

**Tailings Management - Carlos Hubner,** *TSF and Water Manager, Cobre Panamá*

**Question & Answer Session – First Quantum Management**

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**Opening Remarks - Tristan Pascall, Chief Executive Officer**

Good afternoon everyone, and thank you for joining us today at First Quantum's first ESG day. At First Quantum, we are proud of the contribution that our mines make to society. Our responsible approach to environmental, social and governance matters is a key part of how we run our operations and we see ESG as a core part of safe and productive mine performance.

Today our sessions will focus on the sustainability strategies that we have implemented across our business and how this is translated into responsible mining at our operations. I've spent many years living at our operations, firstly in Zambia, and then in Panama, and I have seen first-hand the positive impacts that mining projects can bring to communities through economic development and investment, and to the environment through the conservation and mitigation work that we are involved with.

The copper and nickel that we mine have an essential role to play in global decarbonisation, as well as the ongoing development of emerging economies for the broader benefit of those countries. Without more metals, and therefore mining, the global goals of getting more electric vehicles onto the road and transitioning economies to increased renewable power sources, will simply not be achieved. However, new mining projects are taking longer to explore, longer to permit and longer to build. Establishing support for new projects and greater trust with stakeholders, whether it is from local communities, host governments or investors and lenders, is a challenge faced by the mining industry as it looks to increase the pipeline of supply of these critical metals.

The expected increased demand for our metals, together with the heightened ESG focus, underlines the importance of our

responsible mining strategy. Mining is no longer simply an extractive industry and achieving operational excellence means being socially responsible and environmentally sensitive. At First Quantum sustainability is inherent in our operating model and our approach to ESG centres on real projects that deliver tangible outcomes. We see that a responsible approach to mining can also drive better productivity and safety in our operations. For example – our push for electrification in our major operations in Panamá and Zambia improves productivity and reduces capital investment, even as it reduces the volume of fuel we burn and the emissions we produce. And we see that establishing long-term relationships with communities, employees and governments is key to durable investment stability in our host countries.

I am joined here today by colleagues from across our business who will give some insights into what ESG at First Quantum means in practice and the actions we take to deliver value to our stakeholders. Continued innovation has an important role to play as we seek to deliver metals in the most sustainable and cost effective manner. That's why I've asked Gordon to speak about how innovation is driving sustainability at First Quantum. In Zambia, a country in which we have operated for more than 20 years, the support that we have earned from our local community and local employees has been key to the success of Kansanshi, Sentinel and now the Enterprise mines. Ercan will talk through how we engage and work with local communities to ensure participation in the benefits that mining has to offer. Health & safety is a critically important topic that requires our continued focus. Tragically, this was underlined earlier this year, following a fatal incident at our Sentinel pit. Teza will highlight how we ensure that health and safety is fixed into the First Quantum culture.

Mining responsibly means minimising, mitigating and addressing the impacts of our activities. We operate across a range of geographies. How we do this is therefore highly context specific, particularly when it comes managing biodiversity risks. Andrew and Blanca will outline the approach that we take to biodiversity, and what this looks like in practice at our newest and largest mine, Cobre Panamá. Moving to the opposite end of the mine life cycle, closure and rehabilitation is an important consideration in the lives of our mines, which starts at the planning stage. Rehabilitation begins with the start of operations, and progresses throughout the mine life through to closure. Maria from our recently closed Pyhäslami mine will elaborate on how we go about this. The safe storage and management of tailings is a key operating and environmental consideration for First Quantum. We have well established operating practices, controls and oversight in place and we're

committed to continuous improvement. Carlos will present our approach as we seek to maintain our excellent track record in tailings management with a focus on how this is applied at Cobre Panamá.

I will now hand over to Simon who will talk further about how our pragmatic approach has informed our climate change strategy and the progress that we are making.

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**Approach to Climate Change - Simon MacLean, Group ESG Controller**

Thanks Tristan.

Climate change is a global challenge and we at First Quantum recognize the role that we have to play in helping the world to decarbonise, by delivering the transition metals that are so essential to shifting us away from fossil fuel-based energy systems to ones based on minerals. I've worked for First Quantum for getting on towards 10 years. During my time here, I have worked with a diverse range of teams across the business, and have seen first-hand how sustainability is an integral part of the decision-making process that really is embedded in the culture of our Company. As the world seeks to increase renewable energy and the use of electric vehicles, the energy transition represents an exciting opportunity for us at First Quantum, as a responsible miner, and one of the world's leading producers of copper and nickel.

We embrace the responsibility that we have to take direct action to address climate change within our own business. As the world looks to decarbonise energy and develop electricity networks in emerging economies, we know that we need to lower the carbon intensity of the copper and nickel that we produce and deliver. We published our first climate change report, aligned to Taskforce on Climate-related Financial Disclosures, at the beginning of last year. In it, we set our ambitious greenhouse gas emissions reduction targets based on a tangible projects with pathways to achievement. Over the past 12 months, we have been progressing towards delivering on those projects. When we set our 2020-based targets, we quickly identified power in Zambia and in Panamá as being the key drivers of the carbon intensity of the copper that we produce. In 2022, more than half of our greenhouse gas emissions were from the electricity that we use to produce the copper and nickel that the world requires in these increasing volumes, with this principally being driven by our three largest operations.

In Zambia, more than 90% of the power we draw from the grid is renewable, largely hydroelectricity. That said, copper mining is energy intensive, and we see the opportunity to increase the renewable

power used by our Kansanshi and Trident mines towards 100% renewable sources. The grid in Zambia is getting greener, with new hydroelectric capacity installed and commissioned in recent years, increasing the proportion of renewable power in the Zambian grid and therefore also to our mines. Last year, we announced an early stage project with Total Eren and Chariot Power, for the development of additional renewable power projects in Zambia. This is a combined 430MW wind and solar project, funded and constructed by Total and Chariot, and which would see First Quantum as the offtaker. Following the introduction of Zambian legislation in recent years to facilitate the market entry of independent power providers, we have been engaged in discussions with ZESCO, the state-controlled utility, around the structure of commercial terms, which we need to be competitive, as well as consideration of technical integration with existing infrastructure. With our project partners, the current focus of the project centres on the environmental, social and technical feasibility studies. We are progressing with environmental and social impact studies for the project sites that have been identified for both the solar and wind infrastructure. These projects, whilst reducing reliance on fossil fuels will also provide additional power generation in Zambia as well as diversifying and derisking energy supply to our operations.

In Panamá, where we operate a 300MW coal-fired power station, the GHG emissions associated with the power station account for close to half of our Scope 1 and 2 footprint. This is therefore where we will target a step change towards achieving our greenhouse gas emissions reduction targets. We acquired this power infrastructure, which was fully engineered and ordered, and partially assembled when we took over the project through the acquisition of Inmet Mining in 2013. Given the availability of power in Panamá at the time, it was the appropriate course of action as we constructed and commissioned this mega project. With Cobre Panamá now in steady operation, we acknowledge the need to move to cleaner sources of power for our operations. With the expansion to 100 mtpa throughput, or CP100, we identified an opportunity to start to reduce the proportion of thermal energy at our operation.

Overall, we'll achieve this in 3 phases, aligned to our 2025 and 2030 absolute emissions reduction targets. In the third quarter of last year we confirmed the achievement of the first step. The Panamanian authorities approved a long-term fixed price power purchase agreement with AES Panamá for the additional 64MW power required for our now commissioned CP100 expansion project. This power will be fully renewable from existing in-country capacity at a price that is consistent with our current cost of generation – that's including depreciation and the coal collars that we have in place

until the end of the year. With this power agreement, which comes into effect from the start of 2024, once the expansion is fully ramped up over this year, we'll then see up to 20% of the electricity powering operations at Cobre Panamá being renewably sourced.

Our second and third steps will directly address the emissions generated by our coal-fired power station by transitioning away from the coal power provided to our operations by our two 150MW units. By 2025 and 2030, respectively, we expect to transition a 150 MW tranche of the energy currently provided by coal power to alternative and lower carbon sources.

We expect to be able to increase the amount of renewable energy that we can source from the Panamanian grid for the first tranche, based on existing capacity that is expected to be available by 2025. For the second unit, we do anticipate that additional renewable capacity in country will be required for that final step towards moving entirely away from coal by 2030.

Renewables can be challenging in Panamá, with limited scope for further expansion of hydroelectric generation, which is predominantly run-of-river and therefore exposed to variability in weather patterns. Coupled with low solar intensity and infrequency of winds, and only available in limited parts of the country, means that natural gas, which has around half the carbon intensity of coal, will play a part in the final step of our transition away from the power station.

With this in mind, we have undertaken with the Government of Panamá to perform a study of the power market in Panamá. This will provide us, together with our stakeholders, a base of understanding of power requirements, projects due to come online as well as identifying opportunities to develop and support the expansion of renewable and greener sources of power generation in Panamá. This project is being led by an international firm specialising in the regions power sector, appointed by First Quantum and working in close collaboration with our teams in Panama. This study is underway and will be completed this year, and will help inform us on how best we can increase our use of renewable power while achieving a just transition.

As we move away from coal power, we're conscious that we must do this in a way that is just for all parties – through reliable and cost effective power not only for our operations but also for Panamá and specifically local communities.

We've previously seen spikes in power prices across Panamá when planned maintenance has taken place, or renewables have been impacted by deviations in expected weather, such as reduced rainfall, low levels of wind or higher cloud cover. Last month, we saw a projected shortfall in firm power supply in

the country. The result was a reliance on that stand-by generation in Panamá, which is diesel fuel power generation, very similar in carbon footprint to coal. This means that during certain periods of our transition away from coal we recognize that we may need to continue to operate the coal-fired power station at higher levels due to Panamanian grid base load power requirements as we integrate alternative lower carbon sources of power.

Our focus on decarbonising the power at our three largest operations will deliver us the step change that we are looking for in reducing the carbon intensity of the copper that we produce. This is in addition to the comparatively low carbon nickel produced by our Ravensthorpe mine, and soon, one of Africa's largest nickel mines, Enterprise.

For our new development projects we have implemented a range of carbon prices, as well as related metal prices. The prices that we use are consistent with the IEA scenarios that we use in our climate change scenario analysis . These aim to ensure that we consider and incorporate firstly the resilience of projects to potential carbon taxes or levies and secondly incentivise the use of lower carbon technology as we seek to lower and maintain a low carbon intensity of the metal that we produce.

Although, we have not set a net zero commitment at this time, our 2025 and 2030 targets are aligned to the IEAs Net Zero trajectory and consistent with the Paris Agreement global warming goals. As emphasised by Tristan, we're a pragmatic company and take a similar approach with respect to sustainability and climate change action. We favour setting tangible pathways based on real projects in the delivery of our commitments. That said, we work closely with OEMs to monitor, develop and implement new technology. As this technology that will provide us additional decarbonisation pathways becomes commercially available we will revisit our targets and update them accordingly as we look to implement these.

Our next phase of decarbonisation will mean addressing the harder to abate emissions, principally tackling diesel emissions which currently represent more than a quarter of emissions, and once we reduce our power-related emissions by 2030 will then represent around half of the groups emissions. Although our targets are based on the projects that we are currently implementing to reduce electricity-related emissions, we are also focused on a number of proposed projects targeting these energy efficiencies in these areas through the use of technology and innovation and leveraging our in-house technical expertise. With that, I'll hand over to Gordon to talk through some of these.

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**Innovation Driving Sustainability - Gordon White, Group Mining Manager**

Thanks Simon.

Mining the metals that the world needs in increasing volumes is energy intensive. As a responsible miner, this means improving how we use energy within our business. Furthermore, this means using the most appropriate energy sources and also leveraging technology and innovation to reduce the energy we require.

Our culture at First Quantum, and the people who underpin that culture are vitally important to our ongoing success. Our approach to innovation and technology leverages this culture and our people as we continuously seek to develop, challenge and improve the way that we do things. We are focused on delivering tangible projects from mine to mill that will deliver real change, both with more traditional forms of innovation (such as comminution optimisation, inpit crushing and conveying as well as trolley-assist, through to technology driven innovation leveraging data in areas such as blasting optimisation). The First Quantum culture means that challenging the status quo is encouraged and we all feel empowered to effect change and share learnings with our colleagues. We work closely with our original equipment manufacturers, not only to ensure that we have access to the new technologies, but also to drive their successful implementation into our operations.

Comminution is the process of blasting, crushing and grinding ore into smaller particles for liberation. This is a major consumer of energy, accounting for up to half the energy used at our operations. Therefore, anything we can do to reduce the amount of energy required in the milling circuit has the potential to deliver the most significant and important energy savings. Blasting is the beginning of the comminution process and the use of explosives to fragment the rock is more energy efficient and cheaper than the mechanical breakage done by crushing and grinding. At First Quantum, our goal is to optimise blast fragmentation through our understanding of the properties of the rock.

We combine drilling data, gathered from blast holes, with the block model to inform machine learning which in turn predicts blasting domains. This optimises blast designs and delivers the level of rock breakage that is best suited to our downstream processes. Our blasting approach therefore targets on a hole by hole basis, rather than by entire blast block. To monitor blast results and feedback into our models, measurement systems are used to quantify fragmentation in the pit and performance in the process plant.

Continuing our focus on the use of energy in our mining operations, we have a long-standing objective of maximising the use of

electrical power in our drilling, load and haul operations. With global ore grades declining, more mining volumes are required to keep up with the levels of production of copper and nickel that the world requires. As Simon mentioned, diesel represents more than a quarter of our greenhouse gas emissions. We therefore see pit electrification as important not only in driving efficiencies in energy usage, but also in decarbonising mining.

As a high volume miner, one area we identified as having potential to reduce mining truck haul cycles was through the use of inpit crushing and conveying. At our two largest mines, Sentinel and Cobre Panama, much of the ore haulage is done by in-pit conveying, reducing haul distance and consequently the need for diesel trucks. Although upfront investment in the infrastructure and integration into our mine plans is required, it yields operational efficiency and financial benefits.

In Panamá, we estimate that this means that we need 7 fewer ultraclass mining trucks and saves us around 20 million litres of diesel each year.

In Zambia, where electricity is more than 90% renewable, using in-pit crushing and conveying means replacing diesel with greener energy. In 2022, we saved more than 30,000 tonnes of CO2 as a result. That's about the same as about 7,000 cars.

Central to our pit electrification strategy, and increasingly important to the next phase of decarbonisation is the use of trolley-assist technology. Trolley assist is a real and pragmatic example of how we've applied an engineering solution to deliver operational, financial and sustainability benefits to our operations. Working with our equipment suppliers, we've spent over 10 years adapting and implementing trolley assist technology across our three largest sites.

As you can see, mining trucks fitted with pantographs connect to overhead powerlines installed on our upramps. Whilst connected to the overhead powerlines, electric wheel motors are engaged, which means that for the part of each truck cycle when the truck is driving fully loaded uphill, and requiring the most energy, the truck's diesel-burning engine runs idle. The diesel savings are particularly significant, up to 90% less diesel is consumed – instead of the trucks consuming 600 litres of diesel an hour, this drops to as low as 60 litres. The benefits are numerous, on a 700 metre stretch of trolley line the use of electrical power provides increased speed on a gradient and truck haul cycles are reduced by up to 3 minutes. We see cost savings not only through diesel consumption reductions but also on truck maintenance, with extended engine overhaul intervals. Furthermore, we see safety benefits from the improved traffic management associated with trolley assist. Thanks to renewable energy in Zambia, we're effectively swapping fossil

fuels for renewable power. As we decarbonise power at Cobre Panamá, and where we have the world's largest ultraclass fleet using trolley assist, we'll start to see similar carbon intensity benefits to complement the broad operational advantages that trolley assist brings.

Simon noted that we haven't set a net zero target in the absence of the commercially available technology that will get us there. However, we have continued to advance initiatives that will progress us towards closing that gap. We're currently exploring the potential for semi-autonomous load-and-haul with a trial of trolley and crusher guidance systems at our Sentinel mine with expansion at Cobre Panamá. This could provide us with a large portion of the savings associated with fully autonomous trucking through shorter haul cycles, while retaining the operating flexibility of our mine fleet and the efficiencies of in pit crushing and conveying.

We see the potential for trolley assist to act as a bridging technology for battery trucks. That philosophy is key to our ambition to significantly expand our trolley assist networks at our largest operations. At present we have more than 8 kilometres of trolley lines at Cobre Panamá, Sentinel and Kansanshi, all currently on upramps out of the pits. We are targeting up to 50% of haul cycles at these operations. At Cobre Panamá and Sentinel, this will increase the lines from a couple of kilometres to around 10km. Over time we want to create a culture where trolley assist becomes standard for our haul roads. Linked to this, we recently announced a technology partnership with Hitachi Construction Machinery for the delivery of battery trucks to our Kansanshi mine by the end of this year for feasibility trials. These trucks will leverage our existing trolley assist network and offer the potential for smaller batteries, with reduced charging time, that would lower the carbon intensity of our copper.

We at First Quantum understand that the key ingredients of innovation are collaboration, creativity, resilience and diversity. We try to create a working environment that encourages everyone to think and challenge the status quo. Good ideas can and do come from anyone regardless of title or position. After all people are always at the forefront of innovation and this will continue the great legacy of our past. Ultimately people can achieve extraordinary things in extraordinary time frames.

Thank you and I'll now hand over to Ercan, who will talk through our social and community engagement.

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**Social & Community Engagement - Ercan Balci, Group Social Coordinator**

Thanks Gordon.

I am pleased to have the chance to speak with you today about some of our social activities.

For eleven years I worked at our Çayeli mine, leading our social programs and community relations and similarly to Tristan, I have seen first-hand benefits that mining projects can bring to communities. In the last year, I've been excited to take on broader role covering all of our operations and I've visited almost all of our operations and projects and I've seen for myself many great community projects.

What impressed me most was the level of engagement and strong relationships that my colleagues have built with communities and stakeholders at large. We believe this is the strong foundation for any successful and sustainable community program. We prioritize collaborating not only with host governments, but also by involving and engaging with our local communities starting from design through to delivery.
When we talk about communities, we are also talking about ourselves - our managers, our colleagues, our suppliers are living within and are part of these communities.

From the early stage of project development, we engage with local communities to establish relationships and build trust centred on our pillars of respect, benefit and engagement. This helps us to develop an understanding of the social and cultural areas that could be affected by our operations. In developing any project, as part of our Environmental and Social Impact Assessment, we follow internationally recognized principles on human rights to incorporate the rights and beliefs of the people into our operating models.

At our most recently completed project, Cobre Panamá, we successfully completed the voluntary resettlement of indigenous Ngäbe peoples in 2017. Our process was guided by our pillars as well as the internationally recognized standards and principles of Free, Prior and Informed Consent. The success of the process was thanks to the strong relationships that we built with the community, liaising with them in their native Gnäbere language, and working with international experts and the government of Panamá. We also developed programs and provided continued support in partnership with government education, health and social development agencies as part of an Indigenous Peoples Development Plan.
At the core of the trust that we strive to earn from our communities is the open and regular engagement that we have between our teams and community leaders, NGOs, local government and churches, to name a few.

We have teams at each of our mines whose responsibility it is to maintain dialogue with our local stakeholders.

All of our operations engage with local stakeholders through regular broad based consultation committees as well as community officers out and about in the communities.

In addition to our regular formal and informal dialogue, an important element of our engagement are the grievance mechanisms that we have in place at our operations. Through these mechanisms we seek to ensure that all grievances are documented, assessed, and resolved in a timely way that is culturally and socially appropriate. In many instances, grievance management not only reduces social risks, but also creates opportunities that benefit both communities and operations.

I will give an example from our Çayeli mine. Beekeepers near the Çayeli mine previously raised concerns that the underground gas emissions were detrimental to the health of their bee colonies. They believed that the company was responsible for the loss of nearly half of their bee colonies during winter every year. Monitoring indicated that there are no harmful emissions from the mine, however, it was extremely difficult to persuade the beekeepers. I was personally involved in the community conversations, and it was difficult to convince them with our scientific evidence. Eventually, we decided to hire a beekeeping expert and provided education and practical training to the beekeepers. The expert eliminated a variety of beekeeper errors and improper practices. The loss of colonies dramatically decreased from 50% to 5% and their revenues increased almost three times. Since our respectful engagement, support from the communities has increased and no similar grievances raised.

Mining is a driver of economic activity. In addition to taxes and royalties, the multiplier effect results in significant value for our communities through jobs, supply chains and our community investment programmes. In Zambia, it's estimated that each new mining jobs creates 11 other jobs, 95% of our workforce is Zambian and last year we spent almost $1.2 billion with Zambian registered companies. We spend a lot of time focused on local skills development and prioritising local employment and suppliers where we can.

When it comes to community investment initiatives, we aim to build capacity in our host communities to ensure a better and sustainable way of life for our communities, well beyond the life of mine. Working in collaboration with government and communities we focus on four key areas – livelihoods, education, health and infrastructure. These pillars correspond to the areas where community expectations are the highest, By engaging with government, we can improve access for our communities to the services that they require, without taking that primary responsibility that sits with government.

This collaborative approach results in increased participation from our stakeholders and drives the sustainability of these projects.

Taking into account the feedback that we receive, our community relations teams prioritise high impact projects. Given the diversity of locations in which we are based, these vary according based on community needs. For example in Mauritania we're delivering literacy training courses for local women. When I was there recently, I saw for myself the excitement and genuine relationships with our community relations team.

In Zambia, where we have been operating for more than 20 years, working with our communities and governments, we've supported and funded a number of infrastructure projects, including roads and airports which are shared with the mine, but also schools, clinics and improvements to water infrastructure.

In Kisasa, a town close to Trident, our solar infrastructure provides water to over 8,000 people. In the same area we worked closely with the local community to build the schools that they need, and with the Ministry of Education to provide the teaching staff. Books, desks and other learning materials were also provided by Trident and are maintained by community leaders.

Improving access to education remains important, especially as we look to increase Zambian participation in our workforce, and develop our future leaders. This means investing in education beyond the mine gate, and from an early age. Our scholarship programmes sponsor hundreds of students at primary and secondary level each year, as well as in skills or vocational training. Our Kwambula Centre at the Solzezi Trade Training Institute provides trade apprenticeships and qualifications across a number of artisan skills. The majority of graduates have gone on to work at our mines. With the success of the centre the intake expanded this year to provide skilled professionals throughout Zambia.

In developing our education programmes in Zambia, a particular area of focus has emerged. Girls in Zambia have a much higher drop-out rate than boys due to a number of factors including early marriages, teenage pregnancy and menstruation. Zambia has elevated levels of gender based violence and therefore our community relations team conducted a GBV assessment to better understand and illustrate the scale and causes of social vulnerability. As a result, we've developed a number of initiatives focused on the education of girls. Our Jimuka! Program, first launched at Kansanshi, and then at Trident under the EDGE programme name, targets girls dropping out of school due to the awkwardness that they feel associated

with their menstrual cycle. This programme was developed with school officials and health professionals to help educate boys and girls, in their own language. We provide feminine hygiene products every month to hundreds of school girls to reduce their hygiene and sanitation vulnerability and are sponsoring a number of girls through direct support of their schooling. To date, thousands of girls having benefited from this programme.

These initiatives complement the support services that we help maintain in the wider community. Seeing positive changes in the life of vulnerable people makes my job meaningful. It drives me to find more creative ways of broadening the participation of our neighbours in the benefits brought by mining through real and tangible projects.

In late 2021, we launched our BBN health programme. This is an umbrella for our health & wellness initiatives as we seek to improve the health of the communities neighbouring Trident and Kansanshi. Through BBN we aim to improve the community access to health services by working with the health authorities and other organisations. Areas of focus for the programme included education and training on HIV/AIDS, malaria prevention, water sanitation and hygiene and childhood nutrition.

The final of our four community investment pillars is focused on development of livelihoods. Consistent with our approach to building capacity amongst our communities, we aim to provide the people that are directly affected by our operations with improved livelihood opportunities. In Northwestern Zambia agriculture has long been an important source of income for the communities living in the areas around our mines. We saw the potential to have a positive impact on their livelihoods through more sustainable farming techniques to deliver better crop yields. This resulted in the development of our flagship Conservation Farming for Nutrition Programme. As well as intensive training in conservation farming techniques, we deliver education in nutrition and encourage farmers to diversify their crops from maize to provide their families with better diets. Since the launch of the programme at Kansanshi in 2010, farmers have on average increased their yields by as much as 200%, enabling them to move from subsistence farming to small scale farming. In 2022, around 9,000 farmers participated in the programme at Kansanshi and Trident. This interaction between our communities' livelihoods and the importance of local ecosystems, and the learnings taken from this programme has informed the development of similar programmes in Panama.

At First Quantum we are committed to extracting resources responsibly and place

a great importance on environmental and social sustainability. We will continue to work with and contribute to our local communities to help build a sustainable future beyond the life of our mines.

Now, I will hand over to Teza, he will talk about our approach to safety.

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**Health & Safety - Teza Kasengele, Safety Manager, Kansanshi**

Thanks Ercan.

As Tristan talked to in his opening comments, the safety of our workforce is of utmost concern for all of us at First Quantum and our goal is to ensure that at the end of each day everyone goes home safely. Core to how we operate is our belief that there is no job that is so important that it cannot be done safely. With this in mind, we take a slightly diverse approach to how we manage health and safety across our operations as we recognize that we need to continually do better. With health & safety, as is the case in many areas of our business, we are mindful to avoid over-reliance on policies and manuals to govern every aspect of safety in our business. Instead, we want our workforce to take shared responsibility in managing the risks with focus on accountability and performance, through the tools and training that we provide them with.

Our THINK! Safety programme is central to our approach as we embed health and safety into our culture. It is based on crew resource management, which was pioneered by the airline industry in the 1970s. THINK! focuses on problem-solving through a behaviour based approach that is centred on teamwork, decision-making and communication. Using concepts from THINK!, employees and contractors apply their mind to identifying and reporting of hazards, performing Job Risk Assessments and implementing Critical Controls in response to these, when carrying out complex tasks. We first launched THINK! in 2016 and as it has been rolled out across the Group we've noted a more positive safety culture has emerged. This is regularly reinforced in the workplace by senior management through employee engagement, as opposed to policing. During the engagement sessions, which are conducted in an open and collaborative way, freedom of expression in matters of health and safety is encouraged, and management strives to address issues raised. We have found that this strategy has been effective in sustaining the ongoing development and continuous improvement of our safety culture.

THINK! has evolved since the first launch, first incorporating our THINK! Fatal Dangers initiative into job risk assessments and more recently, the My Reason to Think! Campaign which we launched last year. This campaign, through emotive messaging, reinforces personal responsibility for individual and colleagues' safety. To facilitate our safety messaging

and communication throughout the group, over the years we have developed SafeHub, a digital centre for safety communication materials, in multiple languages. This is used by our teams across the company, through training videos, manuals and also through interactive mediums such as industrial theatre and games.

Our approach to health & safety applies to our employees as it does to our contractors, who are involved in our day-to-day communication about, and management of, safety performance. Over the past 12 months, alongside our My Reason to THINK! Campaign, we've been developing and enhancing how we manage contractor health and safety. Contractor health and safety starts at the tendering stage. The awarding of our contracts is contingent on our safety teams being satisfied that all relevant documentation, controls and monitoring mechanisms are in place. Our contractors commit to compliance with our safety philosophy and that means that we work closely with them to ensure appropriate safety planning and training is undertaken before setting foot at our operations.

It brings me pride to see wholehearted engagement by senior management in driving a strong safety culture. It brings me even greater joy and contentment to see my colleagues and co-workers implement our THINK philosophy in their day to day activities, both at work and in the community.

At Kansanshi we care for the safety of our people not only by addressing hazards that are obvious in the workplace but we also provide education and support for their physical and mental wellbeing. Mental health awareness and wellness programmes are easily accessible through our on-site occupational health services as we acknowledge their role in our colleagues psychological safety. We have gone further by conducting engagement surveys to get feedback on how employees feel about freedom of opinion, management support, diversity, inclusiveness, non-discrimination and the broader culture at work.

Sharing ideas, goals and strategies is one of our strengths as an organisation. Safety managers from all First Quantum Operations meet annually. When we met early this year, it was great to share ideas like the use of technology such as virtual reality to provide training in hazard identification and standard operating procedures.

Establishing and maintaining safety awareness across our operations and in our communities is tackled with a diverse and wide range of tools and techniques. For example at Kansanshi and Trident, the use of Industrial theatre has been very effective in implanting the safety messages in the minds of people. Safety leaders

provide a script to the drama group about a particular area or task requiring special attention. The theatre group members then act the script in drama form and apply their expressive artistic skills as they perform in front of employees and contractors from various departments across site. Such performances leave a positive and long lasting impression in people's minds and have proved to be successful in changing the mindset of the participants, directing them toward improved safety behaviours.

We have also realised that in order to be more successful in achieving our safety targets, employees and contractors need to be aligned with our safety strategy and key performance indicators, well in advance. Therefore, at the beginning of each year, our safety objectives are communicated across the operation, to employees and to contractors. We categorise these as leading indicators, lagging indicators, compliance requirements, continuous safety Improvement areas and emergency response preparedness. Performance against these objectives is communicated and reviewed on a monthly basis in smaller groups, and on a quarterly basis, in larger groups.

One of the leading indicators that has proved to be very impactful is our Visible Felt Leadership initiative led by our General Manager. The leadership team proactively engages with the workforce to discuss health and safety matters on a personal level. This promotes openness in reporting and identifying opportunities to do better. It has been observed that once employee suggestions are acted upon by management, this encourages engagement and sustains our safety and continuous improvement culture.

Lagging Indicators are simply statistics of incidents that have occurred over a specific period of time. We communicate these numbers and their severity to the workforce on a daily basis through the daily safety report. Supervisors and Safety Representatives from each team, contractors and suppliers in various departments review these and share key learnings and action plans with their teams.

As we all know, emergency situations may arise from time to time and it is important that we are prepared. As with all First Quantum operations, Kansanshi is equipped with an emergency response team, and we recently formed a mine rescue team specialised to attend to emergencies related to the recently commissioned underground dewatering project. These teams are given the necessary practical training in emergency rescue operations. We continuously test their skills retention and capabilities by regularly organising emergency drills as well as participating in emergency rescue competitions with other mining companies. Kansanshi and Trident have emerged winners in most competitions that are held annually between the major mining companies in Zambia. We also participate

in annual inter-mine first aid competitions organised by the Chamber of Mines in Zambia. Last year, Kansanshi scooped the second position out of the 20 mining company teams from across Zambia.

We have deliberately allowed training practical sessions by other mining companies to be conducted at our premises at least twice a year in order to learn from them and also to build partnerships as backup teams in case of a major disaster.

This year however, we experienced a tragic incident resulting in the death of one of our colleagues at Trident. Our emergency response team responded very swiftly and saved one life. The investigation undertaken will be thorough and learnings are being shared across our company and the necessary actions taken to reinforce our commitment to safety and to keep ourselves safe at work each day.

At Kansanshi we recently erected a big statue named Mr. THINK, which was unveiled during the commemoration of the world day for safety and health at work. The statue is clearly visible as you arrive at the mine site and reminds us all of the need to keep safety first and also that safety is bigger than anything else that we do.

We will now have a short break before Andrew and Blanca will then speak about our approach to managing biodiversity.

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**Biodiversity - Andrew Hester, Group Environmental Manager**

Welcome back everyone.

We operate in a variety of geographies across diverse environmental settings. For biodiversity in particular, we don't believe that a one-size fits all approach delivers the highly context-specific actions and strategies that are required to deliver the desired outcomes. As a base commitment, we strive to minimise the ecological impact of our operations through a site-based approach to biodiversity risks and the controls at all of our sites. Firstly, that means complying with all laws and regulations and secondly, where we have identified gaps in the local regulatory landscape, that means putting into place actions to align our operations with international best practice or in some cases implementing programmes that we believe have established a new global benchmark. Tristan opened earlier speaking about our commitment to responsible mining, and at First Quantum, we recognize the important intersection between biodiversity and climate change that is becoming of increased interest to our stakeholders in addition to our decarbonisation targets. We're committed to continuous improvement, both in our ongoing performance but also in how we communicate on this important topic. The expected publication of the Taskforce on Nature-related Financial Disclosures (also

known as the TNFD) recommendations later this year will represent an important step forward to improving communication and reporting by companies. We will continue to monitor the evolution of reporting frameworks such as TNFD as we develop our broader ESG reporting.

Environmental impact assessments have been performed for all of our projects and form an essential initial step in the project approval process. Our approach will typically involve engagement with, and participation by, either local or international experts across a range of biodiversity fields, who assist our teams with the initial baseline data gathering followed by the identification of potential impacts. Following this initial process, we work with these experts to prepare and develop long term plans and strategies for reducing negative impacts and where possible delivering positive impacts, similar to the approach outlined by Ercan earlier. Our largest, and most recently completed project, Cobre Panamá, included engagement with a number of leading international biodiversity experts in the development of the biodiversity action plan and initiatives which Blanca will elaborate on.

When evaluating biodiversity risks and developing our management plans, we make use of the biodiversity risk mitigation hierarchy. Our programmes are developed in alignment to the four core pillars – avoidance, minimization, rehabilitation + restoration, and lastly offsets.

Our first step when evaluating biodiversity risks associated with a project is to identify any species, or habitat that is of local, regional or international importance or concern. When identified, and where relevant, we will work with recognized global leaders to design and implement controls and plans to ideally avoid, or to mitigate any potential impacts. With a major project, such as the development of a new mine, complete avoidance or mitigation may not be possible. Where this is the case, we will implement compensatory measures. This will again be with the support and guidance from biodiversity experts, and in accordance with the biodiversity risk mitigation hierarchy. These compensatory measures will often extend well beyond our mining concession areas, as is the case in Zambia and Panamá, where the areas we support far exceed the footprint of our mining activities.

At all of our sites, our environmental teams are responsible for the ongoing identification of biodiversity risks and the delivery of management plans in response to these. Working in collaboration with governments, local communities as well as organisations with specific expertise in biodiversity areas, we continually seek to ensure that we eliminate or minimise

biodiversity-related risks associated with our operations.

We have implemented Environmental Management Systems (also known as EMSs) at all of our operating and closed sites across the group. Our EMSs are aligned to the ISO14001 standard and we audit ourselves against this with both internal and external resources. While our external audits are centred on compliance and performance, our internal audit programme also provides us with context specific focus at each operation. These reviews which are conducted by colleagues with relevant expertise from across the business give us tangible insight into how we can design and implement action plans to drive better performance and outcomes. Our biodiversity risks, controls and action plans are reviewed at least twice a year by site, group and executive management as well as the board audit committee as part of the companywide risk review process.

Our commitment to biodiversity doesn't end at the mine gate. Biodiversity plays an important part in how we develop and deliver community investment initiatives. These can be as part of compensatory programmes but also represent an opportunity, as we look to ensure broader stakeholder participation in the benefits that mining projects bring to communities. Blanca will highlight how this is being done in Panamá, but I'd also like to take the opportunity to talk about Zambia and in particular the north Western province, where we have operated for more than 20 years, and where I was based for 4 years.

In Zambia, slash-and-burn farming practices and charcoal production represent a major threat to biodiversity as the primary drivers of the increasing rate of deforestation. This averages around 200,000 hectares each year, an area approximately 10 x our total mining footprint.

Identifying this as a long term risk to biodiversity and ultimately community health and livelihoods, we've established a number of programmes to increase awareness of the damage caused by charcoal burning while developing and trialling alternative fuel sources. We're also educating farmers on more sustainable farming techniques. As Ercan highlighted, our flagship conservation farming programme significantly improves crop yields and also the quality of the soil. This improves the resilience of the local ecosystem as well as community livelihoods and nutrition to challenges such as climate change.

We understand that deforestation and loss of natural habitat represents a broader risk to biodiversity well beyond our mining operations. That's why, we also actively support in large scale habitat preservation projects over wilderness areas significantly larger than our direct mining footprint. In

Panamá, we make a material contribution to support the management of 25% of all nationally protected land, which represents more than 30x our direct mining footprint.

In Zambia, our contribution to the protection of wilderness areas is even greater than that, and represents more than 100x the footprint of our Trident and Kansanshi mines combined. The North western province of Zambia is home to the West Lunga National Park, an area of almost 12,000 km2 and home to numerous endangered and vulnerable species including a small but growing population of African elephant. Over the years we've worked closely with the Zambian government and NGOs such as UNEP and WWF to establish conservation initiatives to preserve this important biodiverse area. First Quantum provides significant ongoing logistical, technical, financial and managerial support to the project.

Similarly, at Las Cruces, which Maria will touch upon further in the context of asset closure and rehabilitation, the team have done a great job delivering their biodiversity action plan at an operation which ceased open pit mining in 2021. Something close to my heart, the mine sits within an area supporting a population of Great Bustard, a species whose global population continues to decline and is recognised by the IUCN as being globally threatened. In addition to the progressive rehabilitation work during the life of mine, the Las Cruces team have delivered a wide-ranging strategy to address the biodiversity risks identified during project planning, including the Great Bustard. These included working with local farmers to adjust farming techniques during breeding and migration periods, reaching agreements with local hunting groups around bird protection measures and extensive field monitoring programmes. Over the life of the mine, we have seen a progressive increase in the numbers of Great Bustard living and breeding around our mine.

For many of us at First Quantum, our approach to biodiversity management is not simply a job, a legal commitment or a checklist. I believe we are driven by doing what feels right and creating something we can be proud of. In an effort to share our passion with the wider group, last October we entered a team into what is known as Global Birding Day. It's a day where birders around the world try to record as many species as they can over a 24-hour period. We had over 140 participants out birding in Finland, Spain, Zambia, Mauritania, Panama and Canada and managed to record close to 450 species on our sites and in the protected areas that we contribute to.

I'll now hand over to Blanca who will speak about the work being undertaken by her and the team in the biodiversity hotspot that is Panamá.

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**Biodiversity - Blanca Araúz, Biodiversity Superintendent, Cobre Panamá**

Thanks Andrew, I'll be speaking about how our First Quantum strategy and approach translates into how we manage biodiversity risks here at Cobre Panamá.

We are located in the Mesoamerican Biological Corridor, a sensitive area for biodiversity. This means that we spend a great deal of time considering the potential risks from our operations and how we can best manage these.

Cobre Panamá is one of the world's largest copper mines and is located in the tropical rainforest of the Panamanian Caribbean, where high biodiversity is represented by close to 500 species of birds, amphibians, reptiles, mammals, and freshwater fish, and about 1,000 identified species of flora. This started at the project planning and approval stage which included a thorough Environmental and Social Impact Assessment (ESIA). This 14,000 page report forms the basis of our comprehensive Biodiversity Action Plan with more than 370 commitments towards biodiversity. Our ESIA and Biodiversity Action Plan (BAP) provide a comprehensive assessment and a framework for implementing a range of programmes so that we can positively contribute to biodiversity. Through our proactive approach and actions, we are committed to species protection , preserving and enhancing their natural habitats and ecosystems, and supporting sustainable practices in the areas where we operate.

The BAP was developed in collaboration with a range of internationally recognized organisations over a number of years, throughout the planning and construction phase of the mine. These included organisations such as Kew Botanical Gardens, and the Smithsonian Tropical Research Institute and Missouri Botanical Gardens. As we transitioned from the construction phase into commercial operation, we have continued to work closely with a number of international and national organisations in the execution and delivery of our programmes.

Our BAP is designed to mitigate biodiversity risks, following the hierarchy outlined by Andrew earlier. I lead a team of more than 30 and together we manage the interactions between biodiversity in and around Cobre Panamá. Our wider environmental team of more than 200 people is committed to avoiding, mitigating and offsetting any negative impacts on water, air, soils, and ecosystems downstream.

Our BAP exceeds national regulations and focuses on three key areas. First, is our Protected Areas Plan. As Andrew highlighted, the areas supported by Cobre Panamá cover an area more than 30X the footprint of the mine. This is an area of

more than 200,000 hectares of protected land in the Mesoamerican Biological Corridor. In 2022, we signed a long-term agreement with the Panamanian Ministry of the Environment for financial and management support of these areas. Our objective is to slow and reverse the deforestation that has occurred in these areas. Deforestation represents a major risk to biodiversity throughout Panamá. According to the World Forest Watch, the country has experienced a loss of almost 500,000 hectares of tree cover in the last 20 years, with various factors including urban and agricultural expansion contributing to this decline. The mine footprint of Cobre Panamá accounts for less than 1% of this total loss, but we recognize that we have an obligation to address this. We are committed to contributing to the restoration and rehabilitation of ecological systems throughout the country, not limited to the direct impact of our operations. We have implemented programs aimed at conserving native species habitats and landscape. This initiative with the Ministry of the Environment, Cobre Panamá will support the protection of a quarter of all land designated as protected areas in the country, further demonstrating our commitment to environmental stewardship. Secondly, through our Reforestation Plan we have committed to reforest an area almost twice the size of the mine footprint. This involves reforestation of deforested farming land outside the project as well as rehabilitation and reforestation within our mining footprint. Although the commitment is a life-of-mine commitment, we've made excellent progress, and have reforested more than 4,200 hectares to date. Our commitment to reforestation and supporting protected areas also extends to our community investment programmes. Ercan mentioned the core areas of our social engagement and investment. In Panamá, our livelihood programmes actively promote and encourage sustainable farming practices and ecological restoration. The agroforestry programmes that we have developed work with local farmers, to educate them on alternative crops and practices, such as coffee or cocoa. These not only increase farmers' incomes through better yields but also encourage maintenance of the forest canopy under which these crops thrive. Under one of these programmes, the families producing La Ceiba coffee, now export their produce internationally. Another initiative, the Association Of Small Farmers Of Donoso and La Pintada (DONLAP), a local community farming co-operative, has produced more than 850 000 tonnes of produce from dozens of local family-run farms. Each year, Cobre Panamá buys millions of dollars of produce from DONLAP to feed our workforce.

The third pillar on which our BAP is based, is our Species-Level Conservation Plan. Cobre Panamá's setting means that consideration of risks specific to a number

of species at risk is key to our biodiversity actions and commitments. This means that we collaborate with organizations focused on conservation activities for specific species. We work with the Peregrine Fund to protect one of the region's apex predators, the Harpy Eagle, and also with the Tapyr Conservation Programme to safeguard a broad range of species and forests along the Mesoamerican Biological Corridor. Through our Peregrine collaboration we have protected dozens of Harpy Eagle nests in the vast Darien Forest. Our support, through financial contributions as well as education and conservation programmes in the local communities. Our conservation programs have also had a significant impact on critically endangered species such as the hawksbill turtle. We have partnered with the Sea Turtle Conservancy to support our conservation of sea turtles, including the hawksbill turtle. The number of nests for this species has increased exponentially on the beaches where we work together, from less than 50 nests to over 3,000. This area has become the main hotspot for turtle nesting, showcasing the real impact of our conservation efforts.

For the mitigation of species- related risks, on site, we have full time vets and a clinic for the rescue and recovery of animals in and around our project area. Under this plan we are also focused on advancing these species through conservation projects. We collaborate with a number of international and national conservation organisations, which include the Smithsonian Tropical Research Institute, with whom we have a long-term project on ex-situ breeding of five endangered frog species and research on the chytrid fungus that affects wild frog populations. We also work with the Universidad Latina de Panama as a strategic partner for our Micropropagation and in-vitro conservation laboratory, which uses biotechnology to conserve not only Cobre Panamá's species of concern, but also Panamá's wild flora.

These partnerships have been instrumental in the development of our plans, and we continue to cultivate relationships with experts in this field to ensure we are employing the most effective conservation strategies through collaboration. As part of our commitment to preserving biodiversity, we have added the Universidad Latina de Panamá as a new partner. Their involvement in our conservation efforts will further support our mission to protect and preserve the natural resources in and around Panamá.

We have established new partnerships with several scientific organizations. These collaborations aim to study the eco-dynamics of rivers and streams, conduct bioassay research, investigate environmental DNA richness, and enhance understanding of fish populations and behaviours in our area of interest.

Ultimately, through the range of actions that we are taking, we are seek to exceed

national regulations for biodiversity management, meet appropriate international best practice in biodiversity management, in order to achieve our biodiversity commitments and support conservation.

I will now hand over to Maria to talk about how we manage mine closure and rehabilitation, thanks.

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**Closure & Rehabilitation - Maria Hänninen, Environmental Manager, Pyhäsalmi**

Thanks Blanca, thanks Andrew.

Asset closure is an important part of our mine planning process. Each mine site is unique with respect to it's environment, it's social context and it's geography. As we start to think about opening a mine is also when we start to think about how we close one. That means considering risks that could arise from closure in a range of areas, including to the environment as well as the impact to our workforce and our communities.

Identifying these risks and establishing plans to mitigate and compensate for them well before the start of closure activities have a twofold benefit. Firstly, it allows our teams to identify and review the data that will be key to closure plans well in advance. Secondly, longer term planning allows for a number of closure activities to be started during the operating life of the mine. This includes progressively rehabilitating waste rock dumps, ponds or tailings storage facilities alongside mining activities. Harvesting topsoil prior to commencement of mining, results in more effective revegetation and rehabilitation of these areas. At our Trident and Cobre Las Cruces mines, hundreds of thousands of tonnes of topsoil have been used to rehabilitate within the mine areas. At Cobre Panamá, this has also started even though the mine has been in full production for less than three years. In fact, more than a third of our life-of-mine reforestation commitment has been undertaken.

The safety and the environmental stability of our closed sites is our absolute priority. Our closure plans therefore consider factors such as water management, soil restoration, equipment dismantling as well as the rehabilitation of the mining footprint. An important aspect of our closure planning centres on engagement with two of our key stakeholders, our workforce, and our communities. As a mine approaches closure, we support our employees as they look at transitioning into new jobs, by offering opportunities to develop new skills at the workplace or by furthering their academic studies. At Pyhäsalmi, some of my colleagues have retrained to become, for example engineers or bus drivers or to start their own businesses. If possible, we will also look at how they can further their

career at First Quantum at another of our operations.

Community engagement will commence well in advance of the expected timing of closure. Where possible, we will prioritise opportunities that provide the community with future livelihood benefits from the continued use of our lands. Social risks around closure can be more pronounced in developing countries, where the local community is more dependent on the mine. This underlines the importance of our sustainable approach to community projects that Ercan spoke about. At our Guelb Moghrein mine in Mauritania, which is expected to continue operations until early 2028**,** community transition work started in 2018.

In preparing and executing our closure plans, we use both internal expertise, as well as globally recognized leaders to ensure compliance with relevant regulations and legislation. Our plans are reviewed and updated regularly to ensure that they reflect the most up-to-date closure planning estimates and incorporate latest mine development and rehabilitation activity. In addition to review by site and senior management, board level oversight is provided by the Environmental, Health & Safety and Corporate Social Responsibility Committee, who review plans annually.
The financial estimates associated with our closure plans are updated each year and subject to audit. Where local regulations require, we contribute to government rehabilitation funds, or have bank guarantees in place.
We manage the liabilities associated with asset closure for at least as long as we own the site. We continue to actively manage these sites to ensure ongoing environmental stability as we consider divestment opportunities for other mining companies to take projects forward, or whether to return stable properties to the state. Our closed properties are all located in Canada, and there we have adopted the Mining Association of Canada's TSM standards.

In 2022, the Pyhäsalmi copper mine in Finland, stopped underground mining operations after 60 years. Production will continue on a small scale for a few more years by producing pyrite from the reprocessing of tailings material. Located just 5km from the nearest town, Pyhäjärvi, and responsible for around a third of the towns tax income, planning for closure commenced some time ago.

At Pyhäsalmi we meet regularly with the communities while seeking to demonstrate our commitment and planning to carry out the closure in a responsible manner.

With the economic contributions from the mine, our municipality has grown from an agricultural and forestry-dominated village to international prominence. For example, Pyhäsalmi holds several world records, like

the deepest rock concert and the world's deepest sauna. The closure of our mining operation creates new possibilities for local communities. In 2015, our local town, Pyhäjärvi, with our support and collaboration, established the Callio project to promote further industrial uses of the mine site. The most promising plan for the further utilisation of the mine is to use it as a pumped hydroelectric storage station. This project has received funding from the Finnish government to progress the initiative.

Post-closure use of the mine will require continued dewatering and treatment of groundwater. To achieve this, working with Callio, we supported a waste-free water purification pilot in 2022 to increase recycling of water and to generate economic benefits for the local community from the by-products.

When underground mining ended at Pyhäsalmi in August, the execution of the closure plan started. The already established closure team, was reorganized to ensure that operational experience gained by our workforce continued into the closure phase. Our former site services manager is now responsible for the project and around half of our mining workforce is now engaged in the underground demolition and clearing work.

As with First Quantum's other operations, Pyhäsalmi has long conducted progressive restoration during the operational life. One of our tailings ponds was reclaimed more than 20 years ago. This area is now the proposed site for a 30 MW solar farm which is expected to provide power for closure and pyrite production from next year. The remaining tailings ponds will also be reclaimed in such a way that facilitates efficient management of the geochemical stability of the facility and prevents acid rock drainage.

During and after closure, environmental monitoring will continue for as long as is required to ensure the land is safe for people and nature, we are prepared for 30 years. Key parameters will be monitored, including the impacts to surface and groundwater and the maintenance of closure infrastructure.

Pyhäsalmi continues to contribute to the local communities to help the area to remain vibrant. The matter is important to me personally, because I have lived most of my life in Pyhäjärvi and all my childhood in the nearest village which is only 500 m from the mine site. More than 50 years ago, my parents met in Pyhäsalmi at the early stage of the mine, now the circle is closing while I'm working with the closure.

Thanks for your time, and I'll now hand over to Carlos who will speak about how we manage tailings.

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**Tailings Management - Carlos Hubner, TSF and Water Manager, Cobre Panamá**

Thanks Maria.

The safe operation and management of our tailings storage facilities, or TSFs, are a priority area for our management teams across the group, with oversight from the First Quantum board. Across the world, we operate 10 active TSFs and maintain 9 others at our closed properties.

The design of our TSFs depends on their geographical location and follows widely used industry guidelines such as ANCOLD, ICOLD, CDA and EU Directives.

Our TSFs have been designed in a manner that considers the conditions in which the facility is to be located, as well as, the physical and engineering properties of the material to be deposited. Reflecting these factors, we construct using an upstream, downstream, centreline or a combination to suit the site conditions and availability of materials for construction.

TSF performance and stability are monitored using a range of indicators and instrumentation, providing regular data to our teams onsite. We are exploring opportunities for more efficient capture and analysis of monitoring data using emerging technologies solutions and information-sharing platforms.

Assisting our teams at a group level is our Group Tailings Engineer who visits each facility, oversees regular internal audits, encourages the learning and development of our personnel, and enables the sharing of information between the operational teams.

Each of our TSFs is also subject to external review and inspection, at least annually, yet some as often as quarterly. The results are reviewed by senior management and the Environmental, Health, Safety and CSR Committee, who are responsible for overseeing the management of TSF risks. During 2022, this committee received detailed presentations on site management's approach to TSF risks and the plan to commence GISTM alignment. Furthermore, board meetings were held at several of our operations that facilitated first-hand inspections of the Cobre Panamá, Trident and Kansanshi TSFs.

In response to interest from our stakeholders, including the Church of England Pension Fund, we have increased our disclosures with respect to our TSFs.

As a company, we support efforts to improve the industry's performance on tailings management as we target zero harm to people and the environment. Following our review of the ICMM's Global Industry Standard on Tailings Management in late 2021, we committed to a phased alignment of our practices to the

performance aspects of the standard. This is an important tool in our aim for continuous improvement in our tailings governance while ensuring that our site TSF teams retain accountability and responsibility for the ongoing safe operation of these facilities.

As part of our alignment with the GISTM, we have established a framework of key areas.

The first priority area centres on ensuring that the governance structure and roles and responsibilities relating to tailings management are clearly defined and operating effectively. Secondly, we are further strengthening the dam safety management systems that we have in place, building on the well-established Plan-Do-Check-Act cycle. Our third focus area is around the increased emphasis on learning and development of our TSF personnel. This includes targeted learning opportunities for key personnel, the ongoing development of the team, and greater collaboration and sharing of information between our site TSF teams.

Fundamental to our GISTM alignment work are two core First Quantum commitments – the safety of our TSFs, as well as how we can better manage water. First Quantum's largest operations, in Zambia and in Panamá, are in areas with negative and highly positive water balances. TSFs are an integral part of our water and processing management. As such, how we manage water is key to responsible and efficient operations, which includes optimising energy usage and plant performance.

As each site completes this first phase of their GISTM alignment, the focus will shift to embedding the organizational and process changes that have been implemented and to further improve operational efficiencies available across our operations.

I joined FQM five years ago interested in a major change my career. I was working in the consultancy sector for large copper mines as clients that have been operating for decades in a very dry environment in Chile. The focus of an integrated water and tailings management was on water efficiency, maximizing water re-cycling, and environmental compliance of the groundwater component. Cobre Panamá was a total different challenge, working directly from the operational team, trying to deal with massive rainfall, with all the complexities of the initial ramp up phase, but also with the chance of implementing new approaches and technology from the very beginning understanding the benefits in the long-term horizon. I knew that FQM rely on their people, providing the resources needed and supporting the decision-making process from within. Fast-forward to now, I am pleased with the decision to join Cobre Panamá.

As is the case with all active TSFs managed by First Quantum, I lead a dedicated team at Cobre Panamá operations.

Our team consists of almost 500 people working exclusively for the TSF operations, divided into four main groups: embankment construction, cyclone plant operations and piping, geotechnical engineering and quality control, and tailings deposition and water management.

Our TSF commenced operation in February 2019 as the mine ramped up to commercial production in September of that same year. We followed Canadian Dam Association guidelines using the centreline construction method. While designing the facility, we identified three key risk areas: seismicity, climate and operation controls.

Our design was subject to external review by international engineering experts with experience in the management of large TSFs in conditions similar to Cobre Panamá and using IPCC climate projections and historic seismology data.

In Panamá, we operate in an area with extremely high levels of rainfall in a rugged tropical environment. On average, our site receives around 4.5 meters of rain a year with a catchment area of over 20 $km^2$, meaning that the magnitude of precipitation and runoff are more than triple than our water losses.

Our permits and the design of our TSF allow for continuous discharge of the surplus water via a government inspected and monitored compliance point. We use a spillway tower integrated with a tunnel that were sized to safely route the most extreme flow event, known in the industry as the Probable Maximum Flood. In our case, that event is the result of almost 900 mm of rainfall falling within 24 hours, which is more than double the magnitude of the 1,000-year return event.

The vast majority of our water demand at Cobre Panamá comes from water reuse. We achieved around 80% water recirculation in the last two years. As part of the CP100 expansion, additional lines were constructed from the TSF in order to provide the extra water required in the process plant.

Cobre Panamá TSF operations start at our sand cyclone plant where we classify the tailings into a coarse and a fine fraction. The coarse fraction, also called sand, is an effective material that we use to construct the embankments. The sand is pumped to the active construction locations along the two main dams, which a combined length of almost 8 kilometres. At the destination, heavy equipment is used to shape and compact the sand in 1 to 2 meters' thick layers.

Our quality assurance and quality control team then carries out specific tests that

confirm the sand was placed according to the design specification. After their approval, we prepare the location for another coarse sand layer on top and repeat the cycle.

The fine fractions of tailings are discharged inside the impoundment using spigots. The solids settle in the proximity of the spigots forming the tailings beach, while the excess water flows toward the pond. The pond location, shape and volume are actively managed to ensure the proper conditions for tailings settlement before reaching the spillway tower.

On average, we have to raise the embankments about 6 meters per year. This entails placing more than 8 million cubic meters of sand annually to construct the perimeter embankments. That is more than three times the volume of the Great Pyramid of Giza.

These embankments have already reached more than 60 meters in height in some locations, yet we still have to raise them another 50 meters over the next decade to accommodate the mine's production. This is the ultimate storage we are designing for storing in a safe and responsibly manner the tailings rates from the CP100 expansion which has been commissioned and will be ramping up over the remainder of the year.

In summary, tailings management is one of our most important areas of focus and as such has been given due attention at all levels of the organization. Our team dedicated to Cobre Panamá TSF is a reflection of that; in terms of design, construction, monitoring, and operational controls. I will now hand back over to Simon as we open the lines for any questions.

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## QUESTION AND ANSWER SESSION

**Simon MacLean, Group ESG Controller**

Thanks, Carlos. We'll now move on to the question-and-answer period. Just a reminder, you can submit questions via the webcast or dial in to the conference call line to ask them over the phone. I'll now turn over the call to the operator.

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**Operator**

Thank you. Participants are permitted limited to ask one question and one follow up and are welcome to rejoin the queue if there are more. [Operator Instructions] Our first question is from Ralph Profiti with Eight Capital. Please go ahead

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**Ralph Profiti, Eight Capital**

Good morning and good afternoon, everyone, and thanks for taking my questions and the presentation. I wanted to bring up the issue of the Sentinel fatality in

early 2023 and how – what were the conclusions of the investigation as it pertains to root causes? And has there been changes to processes, protocols and standard operating procedures as a result of that?

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**Simon MacLean, Group ESG Controller**

Thanks for the question, Ralph. It's really important area of our business before I hand over to Teza I just really echo the comments that Tristan made at the open this call today about how important safety is and continued focus really on how we improve that, but I'll let Teza talk a bit further about this particular incident or the lessons that we've learned.

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**Teza Kasengele, Safety Manager**

Thank you very much for that very important question. And thanks, Simon, for passing that question on to me. Firstly, I'd like to mention that there was an in-depth review of the incident by a very experienced outcome investigator, and all the lessons that came out of that incident have been shared across the group. From the recommendations that came out of that incident of Trident. We have been reviewing all the haulage routes particularly of the intersections and also at the loading floors. So that we, as much as possible, reduce the chances of light vehicles impacting with heavy equipment. And on top of that, we have also had review the visibility of the light vehicles in the pit areas. We have branded them with high vis paints as well as lightings on top of the bars. We have also made sure that buggy whips are [standard long enough so that there is more visibility. And most importantly, we have reviewed the number of light vehicles that are entering into the pit so that we can, as much as possible, reduce the possibility of light vehicles getting into contact with the heavy equipment. And above all, communication has been very, very important work to the employees and the contractors about the fatality incident that happened, as well as the key lessons that we've gotten from it and how to remain safe at work.

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**Tristan Pascall, Chief Executive Officer**

Thank you. Simon, I'll just jump in as well. Ralph, it's Tristan speaking as well. Look, to add to Teza's answer there. The other area we looked in closely was the technology that we deploy around segregation of vehicles. So, for -- and across the board. So, for example, fatigue, monitoring the cameras, the tracking systems that we have on the fleet in the pit, the monitoring of that in dispatch and the beacons around the pit. All of that was part of the evaluation that Teza put forward, and that does continue to be an area we were actively working on re-evaluation of our collision avoidance technology is part of that. But the most really the number one

issue is the interaction of light vehicles and heavy vehicles. And avoiding that is really the main focus of the lessons that are being learned and deployed, not only at Sentinel, where this tragic incident occurred, but elsewhere Cobre Panamá , Kansanshi and across the board at our major operations.

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**Simon MacLean, Group ESG Controller**

Thanks, Tristan. Thanks, Teza. Great.

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**Ralph Profiti, Eight Capital**

Great. Yeah. Thanks for those answers on an important topic. I want to bring up a follow-up question on what Carlos referred to as the probable maximum flood and whether or not that also pertains to the Petaquilla gold tailings facility, the Molejón tailings facility and whether or not that continues to clear audits, both from First Quantum's perspective and also government and regulators.

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**Simon MacLean, Group ESG Controller**

Thanks for the question, Ralph. It's a good question. I will hand over to Carlos. So, we do have a very significant environmental team in place in Panama and water management is an important part of our environmental compliance. But I'll let Carlos speak a little bit further about that question particular.

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**Carlos Hubner, TSF and Water Manager**

Thank you, Simon. Thank you, Ralph. So I think it's an interesting question. So, yeah, so at the beginning, since we started the operation, we are like increase our knowledge and learning about how we are going to manage an extreme climate event around the facilities that we operate, especially the TSF that we have with Cobre Panama. But is true that we also have to extend that those learning and that knowledge to the surrounding areas including the Petaquilla gold facility. However, obviously is something the information that we share with local authorities.

There is also some involvement from their behalf in order to see what how we can, how we can use this information for them to improve how they are going to manage that particular facility.

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**Simon MacLean, Group ESG Controller**

Thanks Carlos.

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**Tristan Pascall, Chief Executive Officer**

I'll just add, the Petaquilla facilities in a different river system, Ralph it's in the Petaquilla river system, which is across the watershed from our own water area. We potentially have some interaction in the Petaquilla only once we move into the extreme lower end of the Colina pit. But that would only been in several years' time

and so we're not in that river system at the moment. But the and really the challenges that Petaquilla is really a closed operation now managed by the environmental regulator, by the government. And so as Carlos says our interaction is with them on providing our information on rainfall and so on and the management of that facility by the government regulator.

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**Simon MacLean, Group ESG Controller**

Thanks, Tristan. Operator over to you for the next question, please.

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**Operator**

Thank you. The next question is from Jackie Przybylowski with BMO Capital Markets. Please go ahead.

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**Jackie Przybylowski, BMO Capital Markets**

Hi. Thanks very much for taking my call. I know you mentioned earlier in the call that your partnership with Hitachi and the battery trucks that you're, that you're receiving from Hitachi. Can you talk about any other partners that you're working with to implement new technologies? Thanks.

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**Simon MacLean, Group ESG Controller**

Thanks very much for the question, Jackie. I'll, I'll hand over to Gordon who is much more familiar with these areas, and he can talk, talk about some of these exciting developments that are taking place at our operations. Over to you, Gordon.

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**Gordon White, Group Mining Manager**

Thanks, Simon, and thanks, Jackie. I think it's important just to reflect, you know around innovation, and that innovation really comes from, from people. So getting a collective or diverse and collaborative input is vital to that process. So OEM's are very important to that process and you've touched on it and we're very excited with the development of the battery truck at Kansanshi and that's, you know, the most mature operation we have in terms of trolley assist and we see a real future between the battery technology and trolley assist. And so, so that's, you know, that's the one technology, the innovation that you mentioned, Jackie. I think another area which is exciting that I'd like to touch on is the crusher guidance system. So the trolley, trolley crusher guidance system, which is effectively moving into a scale of semi-autonomous application and will give us unlock a large portion of the benefits of autonomous haulage. So that's, that's an interesting, interesting bit of technology that we, we're looking at deploying at both Sentinel and Cobre Panama in collaboration with Lieber. Yeah, I think these advances, we're really excited about the potential of these advances and we can take the business. I mean, they've got all the safety implications as well as efficiency gains. And I think also why the adoption

across not only in our own business but across the industry. Thank you.

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**Simon MacLean, Group ESG Controller**

Thanks so much, Gordon.

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**Jackie Przybylowski, BMO Capital Markets**

Sorry, if I could ask a follow up and if you could indulge me and if maybe a bit of a more silly question, but are you about thinking about artificial intelligence at all, or how that might play into the new technologies that you're adopting?

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**Simon MacLean, Group ESG Controller**

Thanks for the question, Jackie. It's certainly a hot topic. I think six months ago we hadn't heard too many or not too many of us had heard about ChatGPT, but I think there is some potential there in how we use data. But Gordon is the perfect person really to talk a bit more about that.

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**Gordon White, Group Mining Manager**

Thanks, Simon. Thanks, Jackie. I think. Yeah, that's -- it's a very pertinent question. I think, you know, as Simon touched on it its fast evolving. You know the first thing we should recognize is that a mine generates at any time interval, significant amount of data and really AI and machine learning, it gives us the opportunity to leverage that data and drive it, you know, about safety efficiency gains with insight. So it's an area we are excited about, we have deployed I don't think that we had advanced as we can be. And this is where we're putting a lot of effort into it.

But we have various system, I touched on the blasting, which is a really interesting piece of machine learning that we -- that we've optimized hole by hole rather than a standard part effect that the block and that's based on a machine learning model AI, that we have key inputs in that would be one interesting point well area. Jackie another one is in our mobile maintenance base with predictive analytics. So we use oil analysis would be one data input onboard machine sensors is another one and we would use that into an AI program with that would then predict the intervention strategy and plans. And I think, you know, there's lots of scope in these type of areas. I think, you know, AI gives us has the potential for exponential growth, which we need to kind of keep abreast of . Thank you.

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**Simon MacLean, Group ESG Controller**

So thanks so much, Gordon. Thanks, Jackie, for the question. Operator back over to you for any further questions from the line.

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**Operator**

Yes. The next question is from Bryce Adams with CIBC. Please go ahead.

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**Bryce Adams, CIBC Capital Markets**

Hi all. Thank you for the presentation. Lots of great content. My questions are around emissions targets. So will you be able to source the additional green electricity needed to replace diesel? Has this been factored into your emission targets? And lastly, can you comment if offsets are needed to achieve your targets? Thank you.

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**Simon MacLean, Group ESG Controller**

Thanks very much for the question, Bryce. So I'll maybe start with the middle one. So our emissions reduction targets 30% reduction by 25% and 50% by 2030. Those are based on a 2020 base year. And they really target the electrical power that we use at our operations. So they do not incorporate at the present time, for example, expansion of trolley assist or use of battery trucks. It really is centered on how we decarbonize the power use in Zambia, but very importantly in Panama as well. As we get further down, our pathway to decarbonization, we will need to look at or potentially need to look at offsets. But at the present time, we're really focused on what we can do to reduce emissions directly from our operations. In terms of the availability of power for the replacement of diesel, we are looking at how we can increase power generation in a couple of the geographies in which we're based. So in Zambia last year we announced an early stage project with Total Eren and Chariot and that's 430 megawatts of power. And that would increase renewable power on the grid but also increased powerful stop on the grid. And then in Panama we are conducting that power study really looking at where there are opportunities to develop green or a low carbon power as well. So looking at where we can increase the availability of power in those countries.

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**Bryce Adams, CIBC Capital Markets**

Okay. Much appreciated. Thanks again.

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**Simon MacLean, Group ESG Controller**

Thanks Bryce. Operator do we have any further questions on the line?

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**Operator**

Yes. The next question is from Dalton Baretto with Canaccord Genuity. Please go ahead.

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**Dalton Baretto, Canaccord Genuity**

Thank you and congrats everybody on a great presentation. Really well done. I wanted to ask about your social programs in Panama and really two parts to this question. Number one, how if at all were your local relationships within the communities impacted by your negotiations and the dispute with the government last year? And then part B of that question is now that you've got a new agreement in place how will those programs change? Thank you.

**Simon MacLean, Group ESG Controller**

Thanks Dalton and I will hand over to Ercan to take that question. He's travelled around most of our operations and projects in the last few months. So he's seeing first time he'll be able to provide little more context. Ercan if I can hand over to you.

**Ercan Balci, Group Social Coordinator**

Sure. Thank you. In my earlier presentation, I didn't have a chance to talk about Panama enough, I think it was a good opportunity for me, thank you Dalton for the question. During the negotiations actually, we have received significant support, genuine support from our communities, from our neighbors around operation. And then, they actually had what we'd ask for a deal during the negotiations. And we – when we in turn discussed what was the main reason behind this. I would say that the main reason behind that was our ongoing and regular relationships with communities. Beside that, obviously we have many country development projects, if I mention some of them, one of the key projects the one that we are supporting our communities about our training center to develop new professions in various areas such as mechanics, electrical areas and also specialized welding trainings. And we are giving these trainings to the people between ages 18 to 35, it varies and 30% of these students are actually female. There's a quite strong demand for these design for these courses, because whoever receive these trainings they're going to be supplied option by the Education Institute of the Panamanian government So they will not only work for Cobre Panama, but also they can work in other operations in other industries with these skills. It's just taking a look in they're having the practical trainings in our operations in Cobre Panama. In addition to this training center, we have many community initiatives we support seven new cooperatives and associations one of them is quite significant DONLAP cooperative. They are producing local and agricultural products and they sold as much as $3 million of their products to our operations, not only to Cobre Panamá, but also they sell to market and also other international companies as well. We want them to be self-sufficient in that, they can do the business beyond life of mine. That's quite important to us. There are many other initiatives Café La Ceiba is one of them as well. They are producing coffee and not only producing others so processing that. And following during the negotiation with the government and after that we had some meeting, our social managers on that those meetings and consultations to understand. And what are we doing well or how can we do use our social funds even more efficiently? We have – I mean, to be honest, we wouldn't expect such a strong support. And then we decided that we need to invest more in community initiatives, country

development initiatives. 10 years ago I was in Cobre Panamá, I see that Social infrastructure not that enough. And now after 10 years, I see that social infrastructure is at a certain level. So we are going to invest more in community development, livelihoods, income generating activities to such as tourism, cheese production, fish farm and many other initiatives that we receive from communities. So that will be our main focus going forward to that.

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**Simon MacLean, Group ESG Controller**

Great. Thank you very much. I'll maybe just take one question from the web forms before we close the Q&A session. So a question from Andrew Edmondson from Ashmore. How much of the 50% target decarbonization by 2030 is from cutting coal usage at Cobre Panama and how much is from other activities and innovations? So really in response to that, the decarbonization of power and moving away from coal power at Cobre Panama is really what delivers that step change. And last year it represented around 45% of our scope, one and two footprint. So and as we move away from that, that really is going to be key to achieving that interim target in 2025 and 2030. The other components of that really sit around where we can use more renewable power in Zambia, which is which is very renewable as a grid. But we have two very large operations there, which do consume la lot of power. So increasing those renewables will also contribute to that Cobre Panama decarbonization is really what delivers us that step change. Thanks for the question, Andrew. And with that, I think will conclude the question and answer session. And thank you, operator. And I'll now turn over the webcast to Tristan for his closing remarks.

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**Tristan Pascall, Chief Executive Officer**

Thanks, Simon. Thanks to everybody who joined. We really appreciate your participation today. The team that's all here, appreciate the interest, and certainly, there was some very good Q&A at the end of the – of what was a very good session in terms of communication around our ESG processes. I'm proud of the work that our teams undertake across the business and appreciate the opportunity to share some of this work with you. This is only a portion of it, but there's a lot of teams on the ground who continue to work very hard across this. We'll be speaking to you again soon. I'd certainly look forward to that when we publish our Q2 results and our earnings call on July 26. So, thanks again to everybody and enjoy the rest of your day.

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