Johnson Matthey
Inspiring science, enhancing life

PGM Services seminar

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Introduction

Liam Condon

CEO, Johnson Matthey

Agenda and introduction

Good afternoon, everyone. Thank you for joining us today and a warm welcome to our PGM Services seminar. Johnson Matthey has been a global leader in platinum group metals for generations. JM started out as a precious metal assayer in 1817. And ever since then, we've been harnessing the power of PGMs in our technologies, from electrocatalysts used in NASA's Apollo programme to the world's first commercial autocatalyst. And not only that, but we helped create one of the world's first circular economies, recycling these critical metals so they can be used again and again and again. Fast forward to today, and PGMs remain fundamental to what we do. And our PGM Services business is the beating heart of JM. Today, we'll unpack this business and give you some colour on the PGM markets and the sustainable growth opportunities for years to come.

In a moment, Alastair Judge, Chief Executive of PGM Services, will take you through the detail. Then Stephen Oxley, our CFO, will cover the financials. But first, let me start with a short introduction to put this session in context.

Catalysing the net zero transition

Let's start with a brief reminder of our purpose-driven strategy to catalyse the net zero transition. We're now a streamlined group of four businesses. PGM Services is the foundation of JM. It enables our other businesses, Clean Air, and our growth businesses, Catalyst Technologies and Hydrogen Technologies, through the supply and recycling of critical PGMs. Providing world-leading PGM expertise and a full-service circular business model, it underpins our competitive advantage across our markets.

PGMS have been the backbone of JM for over 200 years

Johnson Matthey is a global leader in PGMs. Over 200 years of expertise is truly hard to replicate. Our foundational PGM ecosystem supports the whole of JM.

And our world-class R&D capabilities enable us to explore new applications and maintain competitive advantage. As the world moves at pace towards a more sustainable future, our full service offering provides our customers with a circular economy, from metal sourcing to product manufacture, all the way to recycling at end of life. And PGM Services, the heart of this PGM ecosystem, is a highly profitable and cash-generative business.

Portfolio transitioning and growing over time

You'll hopefully be familiar with this slide showing how our portfolio and underlying profitability will evolve over time. In the near term, growth will be driven by Clean Air efficiencies and our Catalyst Technologies business as we accelerate to high single-digit growth for the group over the medium term. And as the green hydrogen market develops, Hydrogen Technologies will contribute in the long term. But what tends to be overlooked is the underpin and sustainable performance of our foundational PGMS business. We expect this to grow steadily over time and contribute to the overall cash generation of the group. So what we're going to do today is look at the PGM Services piece of this.

And with that, I'm going to hand over to Alastair. Alastair has over 20 years of industrial and financial experience and has been at JM for six years, first as Clean Air Financial Director, then as Interim Clean Air CEO, and he is now running PGMS. Over to you, Alastair.

PGM markets

Alastair Judge

PGM Services Chief Executive, Johnson Matthey

Thank you, Liam. And good afternoon, everyone. I'm going to talk about the market in which we operate. And then I'll cover our business in more detail. So let's start with the market.

PGMs have unique properties

Platinum group metals have four unique properties that drive demand. First, they are highly active catalysts. They enable a broad range of challenging chemical reactions at low temperatures. And they play a critical role in industrial applications as they increase efficiency and reduce energy consumption.

Second, they are durable. They can withstand harsh conditions such as corrosive and oxidising environments and resist temperatures up to 2500 degrees centigrade. This means they are used in situations where other metals disintegrate.

Third, they are highly efficient. They are used in fractions of grams, while other metals are used in kilograms.

And fourth, they are fully recyclable. The high price of platinum group metals has led to the development of a highly sophisticated recycling industry. Well over 30 million ounces of these metals are consumed globally each year, of which around half are from recycled sources. This means their environmental impact is low as they are recycled time after time.

I'll turn now to some of the industrial applications where these metals play a vital role.

PGMs are critical to many high-performance applications today

The main use for platinum group metals is autocatalysts, where their extreme durability and high levels of activity mean they are used very sparingly to clean the air we breathe.

But they are also used in a broad range of other industrial processes. For example, PGM process catalysts are integral to the production of fuels and chemicals we rely on in everyday life. There are millions of ounces of PGMs installed in production facilities around the world. Among other products, they are used to produce high octane gasoline, renewable diesel and jet fuel, plastics and clothing textiles. In the hydrogen space, there is a growing demand for iridium in electrolysers and for platinum in fuel cells, because they have high tolerance to harsh acidic and oxidising conditions.

Less well known is the use of platinum group metals in other areas, including: an amazing array of electronic applications, from chip resistors to hard disks in datacentres, where they provide great connectivity and durability; and as precursors in the manufacture of pharmaceuticals – one of our own products is used in a number of life-saving cancer treatment drugs; and they are used in medical devices, for example, pacemakers and stents, where they are biocompatible and will not degrade in the body.

In short, these metals are used in many high-value processes that are fundamental to a wide range of industries.

An attractive backdrop for emerging PGM applications

The market environment is also becoming more attractive. In 2020, the adoption of new automotive regulation in China drove a super cycle, making these metals too expensive for many sectors. Automotive OEMs have no choice; nothing else works in their exhaust systems. But other industries, such as fibreglass manufacturers, exited PGMs wherever possible, especially palladium and rhodium, because they were so expensive. New industrial developments were also put on hold given the high cost. But now that prices have stabilised at historic norms, the uptake of PGMs in new applications, especially for the net zero transition, is very attractive.

PGMs also benefit from well-established diverse supply chains, whereas growing demand for copper, nickel, and lithium is increasingly constraining supply. One reason that PGMs face fewer supply chain constraints is because around half of their annual consumption comes from recycling. There are two routes to recycling. In open loop, the metal is available to the market once it's been recycled. This is mainly driven by the recovery of autocatalysts from scrapped vehicles. Open loop will continue to grow for many years to come, with the potential to increase by a third or more by 2030. In closed loop recycling, the metal is recovered from end-of-life industrial applications and the customer retains the metal once recycled for use in new products. This market is even bigger than open loop and is also set to grow.

Meanwhile, government policy around the net zero transition, notably in the US, Europe and the UK, alongside industry activity to optimise the use of PGMs, is driving both innovation and investment.

New PGM applications are fuelling demand

That's why the uptake of PGMs in new markets is accelerating, especially in areas associated with the transition to net zero. For example: the energy sector, including but not limited to hydrogen; transportation, where they are used for sustainable fuels; and new industrial uses such as pharmaceuticals and agriculture.

At Johnson Matthey, we are also introducing PGMs into existing processes. For example, we have a palladium catalyst that replaces a nickel catalyst for manufacturing an anti-cancer drug. This reduces the amount of waste by over 95%. And the palladium can be recycled. Customers with new technology applications are especially interested in the environmental benefits of these metals.

Together with stable pricing and improved availability, this puts platinum group metals in a strong position to win in these new markets.

Case study: PGM demand for sustainable aviation fuel production

The aviation sector is a good example where these metals are helping to address emissions that are difficult to abate. If we want to decarbonise long-haul travel, a large part of the answer will be sustainable aviation fuel, commonly known as SAF. This is a direct replacement for fossil jet fuel or kerosene and can be used in engines with the same refuelling infrastructure.

In November last year, the first ever 100% SAF-powered flight from New York to London took place. Enabling this 100% SAF blend was BioForming® technology underpinned by a PGM catalyst.

This is an accelerating market driven by increasing government mandates and airline commitments around the world. And it's just one example of how the net zero transition is creating new use for platinum group metals.

The overall value of PGM applications will increase

We expect the overall value of PGM applications to increase over the next decade.

In volume terms, our projection for the use of PGMs is broadly stable. But within this, there are two key dynamics. First, the market today is heavily weighted to autocatalysts. And the link is especially strong for palladium and rhodium. Over the next decade, the volume of PGMs used in autocatalysts will decline in line with battery electric vehicle penetration. But expectations on the speed of this decline are slowing. Internal combustion engines are likely to be stronger for longer. And hybrids use just as much metal in their catalysts as light-duty gasoline vehicles. So the market projections on electric vehicle penetration used here may overestimate the extent to which automotive demand for PGMs will soften. Second, the majority of this reduction in demand for autocatalysts will be offset by new demand for industrial uses, both for growth in existing applications like hydrogen and for the development of new applications such as sustainable aviation fuel.

And in terms of value, these applications will generate much higher returns per ounce because they require more scientific expertise in both development and production. While an autocatalyst salt has a processing premium of just a few pounds per ounce, a specialist industrial catalyst generates a return many times higher. So the opportunity for platinum group metals will be significant and the value of the market for fabricators will grow.

Secondary (recycled) supply is growing

Secondary recycling will also grow. Primary mining supplies just over half the PGMs used each year and dominates the supply of new metal into automotive catalysts. But mining costs are accelerating while metal prices remain subdued. And this is creating margin pressure for mines and is likely to lead to a reduction in new metal over time. Increased volumes of secondary metal will fill this gap, especially as cars with heavy PGM loadings in their exhaust systems are scrapped. The marginal cost of recycled metal is about 80% lower than primary, while the carbon footprint of recycled metal is up to 98% lower.

While primary mining will remain critical to the market, there will be a rebalancing from primary to secondary sources, which will support growth in recycling volumes for years to come. And recycling sits at the heart of our business. And our network of global refineries, together with our technology, gives us a great competitive advantage.

PGM markets are critical to the net zero transition

So in summary, the market for platinum group metals has a secure future over the long term. Their use in autocatalysts will increasingly be replaced by new high-value applications across a wide range of industries. And secondary refining volumes will grow driven by the cost and sustainability benefits of circularity.

PGM Services overview

Alastair Judge

PGM Services Chief Executive, Johnson Matthey

I'll now move on to how Johnson Matthey operates in this evolving market.

PGM Services: a world leader in PGMs

We are a world leader in platinum group metals with a history going back over 200 years. We have world-class R&D together with market-leading capabilities in these metals and their applications. We have a global footprint for refining and manufacturing. We are the go-to experts for managing the supply of these metals. And we offer a full service from refining to supplying to manufacturing to recycling. In other words, full circularity for our customers.

PGM Services: a highly profitable business

All this makes PGM Services a large and highly profitable business. Johnson Matthey books around £9 billion of metal sales on behalf of customers every year across our four businesses, with the metal managed by PGM Services.

Excluding metal, PGM Services generated sales of £462 million and operating profit of £164 million last year, with an EBITDA margin of 42%. It delivers this through three main activities. First, Refining, which is our largest business. Second, Precious Metals Management, which is small but highly profitable. And third, the design and manufacture of complex value adding products, which is a high-growth business.

Operating across the whole PGM value chain

We are a world leader across the whole platinum group metal value chain. As I said earlier, over 30 million ounces of these metals are consumed globally each year, of which around half comes from recycling. At Johnson Matthey, we refine up to 6 million ounces of PGMs each year. We take relatively low purity feeds and produce up to 99.95% pure metal, which can then be used across a whole range of industrial processes. About two-thirds of the metal we refine comes from secondary sources with the balance coming from primary.

We are also a global leader in precious metal management, operating the largest global liquidity hub for PGM in sponge form and managing the supply and demand for our customers. We trade and manage substantially more metal than we refine, over 10 million ounces each year.

And finally, we use our scientific and operational expertise to design and manufacture a wide variety of products. We supply PGM salts to Clean Air and growing quantities of product to our Hydrogen Technologies and Catalyst Technologies businesses. But mostly, we supply a large volume of high-value products to over 1,000 customers globally across many industries.

I'll cover all three areas in more detail in the coming slides.

Refining: the world’s largest secondary PGM refiner

Refining has been at the heart of our business for over 200 years. It ensures customers use our products confident that we can offer them a circular solution.

This is a high-tech activity. The ability to take a wide variety of feeds with different chemical make-ups and to process them safely and efficiently is very complex. Our scientists are

constantly working to reduce costs and speed up lead times to produce up to 99.95% pure metal. This is a market-leading level of purity, something which is very hard to do at scale, but which is critical before PGMs can be reformed for new applications.

We help customers deal both with unusual feeds and unexpected challenges in their supply chains. This brings in significant business for us and often leads to long-term relationships. Our capacity to produce pure metal is about twice that of our nearest competitor, which helps us respond to these new business opportunities with great agility.

Refining: leveraging our global footprint and extensive partnership network

We have a global footprint with refineries in the UK, US and China, together with a smaller, fully circular offering from our facility in India. We also have an extensive network of upstream partners to help us manage more complex feeds.

This geographic reach enables us to engage with governments. We are currently in direct discussion with policymakers in the UK, US, and Europe, as they consider the role that platinum group metals can play in driving the net zero transition.

Refining: investing in our new world-class refinery

We know that long-term success in refining is dependent on cost leadership, cycle times, high levels of safety and low levels of environmental impact.

Given the expected growth in secondary refining, we are investing in our new world-class refinery. We will start commissioning by the end of 2025/2026 and be fully operational by 2026/2027 after a phased handover. Once fully operational, the new refinery will release around £250 million of working capital from a combination of reduced cycle times and increased capacity to help us manage peak flows efficiently without backlogs. The new refinery will also have greater ability to handle the growth in complex feeds we expect from new industrial uses of PGMs.

In short, with greater efficiency, better safety and lower Scope 1 emissions, the new refinery will secure our leadership in platinum group metals for decades to come.

PMM: the global liquidity hub for PGMs

Our Precious Metals Management business has the expertise to manage supply and price risk for customers and partners in both the short and long term. This is very important for new customers who are not used to managing PGMs, but who are confident that with Johnson Matthey by their side, they can enjoy their benefits.

We are also expanding our trading services in response to demand for more flexibility in pricing and metal offtake agreements, without increasing the risk profile of the business. And we offer certified 100% recycled low carbon metal for a small premium to help our customers meet their Scope 3 emission goals. This customer focus underpins metal management as a valuable revenue stream.

Products: a leader in converting PGMs into high value products

In our Product business, we have a fabulous portfolio of technologies and manufacturing skills. We already supply over 1,000 customers globally, including many blue-chip names such as Honeywell, Bayer, Novartis and Siemens.

I mentioned some existing uses earlier, but the dynamism of these metals and the breadth of their application is astonishing. PGMs are used to coat aviation turbines. Through our work with the University of Leicester, one of our specialist platinum alloys is being used by the European Space Agency to clad heat generators for a mission to the moon. And as well as developing pharmaceutical catalysts, we make crucibles from iridium to grow the pure crystals needed in medical PET scanners, the scanners that detect cancer, because iridium has that melting point of 2,500 degrees centigrade.

Given the scientific expertise they demand, the products we supply to customers are high value, often bespoke, and often on long-term contracts. That's why our products business is already high growth. Profit has been growing at a double-digit rate each year over the last five years, despite the constraints placed on it by very high metal prices.

We are now using our skills to develop further uses for platinum group metals, both for substitution as PGMs are now economically viable in applications that have historically used base metals, and in new markets to support the sustainability and circularity goals of our customers.

World-leading R&D expertise underpinning our market position

The strength of our Products business is underpinned by our leading expertise in complex PGM chemistry. This starts with applied science, how the metals can be developed in catalysis and other industrial processes. It then spans from laboratory to piloting and then scaling up the complex process engineering to make scientific breakthroughs a reality.

We have over 2000 scientists and engineers working on metals chemistry across Johnson Matthey. We have a network of external partnerships with leading universities and institutions. And we have over 1500 patents for technologies enabled by PGMs.

We also have leading capabilities in base metals, which helps us to understand how and where to apply our expertise in platinum group metals. This expertise is difficult to replicate and gives us a strong competitive advantage.

Applying our R&D expertise to new markets: JM's HyRefine™ technology

We are also using our R&D expertise to design end of life recycling in new markets. In 2023, PGM Services broke new ground in the hydrogen economy, with the successful lab-scale demonstration of our recently patented HyRefine technology.

As the number of hydrogen projects worldwide continues to grow, there is an increasing need to embed circularity into the process. With HyRefine, we now have a way to recycle the two most critical components of hydrogen fuel cells and electrolysers. First, the platinum group metals themselves, and second, the membrane ionomer which accounts for around 30% of the total cost. Whilst others have to burn the membrane ionomer and destroy it, we will recycle it for future use. As a purely chemical process, HyRefine also provides significant cost and efficiency benefits.

Our announcement of HyRefine has stimulated a large number of high-value leads, opening up new opportunities for both PGM Services and Hydrogen Technologies.

Driving value and growth through full-service offerings

Our full-service model delivers an unmatchable offer to our customers: one that combines research and development, supply and price management of metals, fabrication and end-of-

life refining. We enhance this further by financing the metal used through a third party. We have always offered all these components separately. But there is an increasing demand for a one-stop shop, giving our customers simplicity while locking in the benefits of lower Scope 3 emissions.

In fact, customers increasingly insist that we provide all these steps as a condition of supplying a product. One example is a precursor we are providing to Vertex. We have designed a catalyst to enable them to manufacture their new drug. We will supply the metals, fabricate the products, and are in final stage discussions to recycle and replace the catalyst at the end of its life.

Of all the pieces of the full-service model, the science behind the design of a catalyst to optimise a customer's processes and the ability to deliver efficient end-of-life recycling are the ingredients that others find hardest to match.

World leading in PGMs

So in summary, refining precious metals is in Johnson Matthey's D&A. With a history of more than 200 years, we are the world's largest refiner of secondary platinum group metals. We act as a global liquidity hub with a strong understanding of the supply and demand for these metals. And we are using our unparalleled expertise to establish new applications for these metals, driving the net zero transition.

Thank you very much, and I'll now hand over to Stephen.

Financials

Stephen Oxley

CFO, Johnson Matthey

Thanks, Alastair. And good afternoon, everyone.

You've heard about PGM markets and our opportunities. I'll now put these in context with some numbers to help you model the business. I'll start with a summary of our business model before moving on to how this impacts our financials. I'll then walk through how we're thinking about future profitability, growth, and how PGM Services can drive higher cash generation for the group over the medium term.

How we make money in PGM Services

This chart shows a breakdown of 2023/24 sales across our three activities of Refining, Precious Metals Management, and Products. As you can see, Refining and Products are the largest contributors. Recently, sales from Refining have been even higher, driven by the PGM price supercycle.

In Refining, the majority of income is generated through our commercial model based on metal retention. In simple terms, we retain a small amount of the metal processed as a refining fee, which we then sell into the market at spot price. So both sales and profit are directly linked to metal prices. This explains why our reported results have reduced significantly from 2021 when metal prices were at their peak. In addition, we charge a small service fee. We are looking to increase the proportion of this fee, which will reduce volatility in earnings.

Precious Metals Management stores and manages the supply of metal for our customers and for Johnson Matthey. We make money based on the bid-offer spread and volumes of metal that we buy and sell for our customers. We don't speculate or take price exposure, but high and volatile prices are good for PMM, so it has also benefited from the metal price supercycle.

Finally, as Alastair said, we have a high-value growth opportunity in PGM Products where the metal price is passed through to our customers. So in products, we have no income exposure to metal price. As our Products business grows and as we adapt our commercial model in refining, sensitivity to metal prices will therefore reduce over time.

Delivering sustainable profit growth

You can see here how the PGM supercycle generated exceptionally high profits from 2020 to 2023. As metal prices reduced, so have our underlying earnings.

We expect this year's operating performance to be broadly stable as prices have stabilised and refining volumes remain subdued. This includes the benefit of metal recoveries from refining asset renewals, which may not recur in future periods. We're also driving efficiencies in our manufacturing processes to set the business up for the future, including investing in our new world-class refinery.

Over the medium term, we anticipate at least low single-digit growth in operating profit, driven by increased demand for recycled PGMs, growth in our high-value products business, the development of our full-service offering, and improved efficiencies from the new refinery. Depreciation and amortisation is currently around £30 million, increasing to £60 million with the new refinery. So you can expect a base level of EBITDA of around £230 million from FY27. Through this period, we expect the price of the total basket of metals to remain broadly stable and the weighting of profits from our Products business to increase. As a result, both profit and cash flows will be less impacted by metal prices.

Let's look now at capex.

One-time investment into new refinery

In our year-end results presentation, we set out new capex guidance for the group of up to £900 million over the next three years. The largest proportion, around 40% or £350 million, is for PGM Services. This comprises a further £250 million on our new world-class refinery and £100 million to support our Products business and other asset renewals.

As Alastair said, we expect the new refinery to start commissioning by the end of 2025/26 and to be fully operational by the end of 2026/27. The new facility will be more cost efficient, which would improve EBITDA, but we will see a higher and offsetting depreciation charge impacting operating profit. The remaining £250 million investment will be completely funded by the working capital released once the refinery is operational.

Beyond 2026/27, capital investment in PGM Services will reduce significantly towards maintenance levels.

Turning now to working capital.

Recent working capital dynamics have impacted group cash flow

In the last three years, a significant increase in PGMS working capital has impacted our group free cash flow for a number of reasons.

First, our refining backlog increased by over £300 million as a result of our aging assets. It's taking longer to process customer intakes than our contractual terms, meaning we have to fund metal working capital. This will unwind once the new refinery comes on stream.

Second, to optimise the cost of financing our metal requirements, we have reduced our external metal leases by £240 million. This has increased working capital by the same amount.

Third, lower metal prices have increased the value of working capital in Precious Metals Management by around £500 million. This offsets the £500 million metal price benefit in the cash generated from Clean Air, so has no impact on the group overall. With stable metal prices, this will not repeat.

So expect PGMS to deliver a significant improvement in group free cash flow as both capex and working capital reduce over the medium term. And that's in addition to our increased 10-year cash flow guidance of £4.5 billion for Clean Air.

Driving long-term sustainable value creation

So in summary, PGM Services is driving long-term sustainable value creation. We expect increased refining volumes as the auto scrap market recovers and demand for recycled metal grows. We're driving growth in our Products business with new high-value applications. And we continue to focus on efficiency, driving operational improvements across the business. Taking these factors together with more stable metal prices, we expect PGMS to deliver at least low single digit growth in operating profit over the medium to long-term.

All of these dynamics mean strong cash conversion for PGMS with a greater contribution to strong cash generation for the group. And with that, I'll hand back to Liam.

Conclusion

Liam Condon

CEO, Johnson Matthey

Thank you, Stephen. Hopefully that's given you a good insight into PGM Services and its long-term value to Johnson Matthey. We've got plenty of time coming up for Q&A shortly. But before that, I'll summarise.

PGM Services is key to our strategic success

You should recall our milestones for the group, which we updated at our full year results last month. We continue to execute on our strategy and raise the bar even higher.

On this slide, we've pulled out key milestones relating to PGMS. This includes our target to start commissioning our new world-class refinery by the end of 2025/2026. Hopefully, this presentation has made clear the importance of this investment and the significant benefits that it will drive going forward. These include safety and environmental benefits, which contribute towards our group-wide targets.

And finally, we are introducing medium to long-term financial guidance for the PGMS business: at least low single-digit profit growth that reaffirms our confidence in the long-term

sustainability of this business. As always, we'll continue to provide regular updates on our progress against these commitments.

PGM Services is the backbone of JM

So to wrap up, I'm really excited about the future of our PGM Services business. As a world leader in platinum group metals, we have real competitive advantage and opportunities in markets that have longevity. And as we move forward, we expect PGMS to continue to underpin JM, driving strong, long-term, sustainable value creation for our shareholders.

And with that, we'll hand back to the operator for the Q&A.

Q&A

Operator: Thank you. As a reminder, to ask a question, you need to press star one and one on your telephone and wait for your name to be announced. To withdraw your question, please press star one and one again. If you wish to ask a question via the webcast, please type it in the box and click Submit. Once again, if you wish to ask a question, please press star one and one on your telephone. We'll now pause while questions are registered. Thank you.

We are now going to take our first question. And the question's coming from the line of Riya Kotecha from Bank of America. Please ask your question.

Riya Kotecha (Bank of America): Hi, good afternoon. This is Riya from Bank of America speaking. I've got three questions, please.

My first one is on the payback period of the investment. Can you speak a bit about the timing of the working capital benefit, the phasing of when you expect this release to be delivered, and therefore what the implied payback period is?

My second question is on the capex. On slide 33, you say that capex trends towards maintenance levels by the end of FY28. And if I add up some of the figures you presented, so £60 million in PGMS by the end of decade, another £100 million in Clean Air of D&A, and £50 million elsewhere on the group level, that takes me to about £200 million for D&A. And is that a reasonable level of capex to be thinking about in terms of FY28 and beyond?

And my third question is on the PGM scrap market. So from my reading, secondary palladium and platinum scrap volumes from autocatalysts have dropped by about 20-25% compared to 2019 levels, given lower recycling volumes. And so how much of an impact has a tight scrap market been to your utilisation or yield rates at your PGM operations? And do you expect this to recover, and if so, what timeframe?

Liam Condon: Okay. Thanks a lot, Riya. I appreciate the questions. So Stephen will take the first two, the first one on the payback on the investment, second one on capex and whether or not ballpark £200 million D&A from 2028 onwards is reasonable. And Alastair will take the third one on the PGM scrap market and the relevant impact.

Stephen Oxley: Hi, Riya. Thank you for the questions. Let me just deal with the payback first. So the way you should look at the new refinery is that it's a replacement asset. And the payback is extremely quick. So we spend another £250 million to go. That working capital release that I talked about will come out over the first 12 to 18 months of operation, and that

more than covers the remaining capex. So a very, very rapid payback indeed. And of course, the new refinery will then generate cash literally for decades to come.

Maintenance capex thereafter, I talked about depreciation in PGMS being about £60 million. The D&A for the group at the moment is about £200 million. So in total, you're probably talking about £230 million to £250 million of maintenance capex post FY28.

Alastair Judge: Yes. So in terms of the scrap markets, the scrap markets have been very soft for the last two years. And at this stage, we're not seeing any immediate signs of recovery. But what we do know is that increasing amounts of PGMs went on to vehicles from 2010 onwards, driven by the legislation that went in across many geographies across the world. And we know that the vast majority of that is recovered when the cars reach the end of their life at between 12 and 15 years. So we're very confident that over the coming period, volumes of auto scrap will start to increase significantly. And as I said earlier, we expect them to be probably 30% plus above their levels that they are now as we move forward. And that's pretty scientific. There's scientific data that shows where that catalyst will come from and when it will come in.

Riya Kotecha: Thanks. That's really helpful. I've just got a follow up. So that low-single digit EBIT growth that you forecast out through decade end, to what extent does that bake in a recovery from the scrap market and more of a cyclical recovery versus some of the structural growth factors that you talked about?

Alastair Judge: Yeah, it brings in both. It brings in both the expected recovery in secondary Refining volumes and the growth in the Products business.

Riya Kotecha: Okay, thanks. That's really helpful.

Liam Condon: Thanks, Riya.

Operator: Thank you. We are now going to proceed with our next question from the line of Sebastian Bray from Berenberg. Please ask your question.

Sebastian Bray (Berenberg): Hello, hello, good afternoon and thank you for taking my questions. I'll ask them in turn. The slides and the speeches made reference to £250 million of remaining costs for the refinery, but if we just take a 15-to-20-year depreciable life on the assets and the £30 million of incremental D&A, what's the total cost of this new refinery – somewhere between £450 million and £600 million by the time that it's completed? That's my first question.

Liam Condon: Yes, thanks a lot, Sebastian. So Stephen will take that one and frame it for you.

Stephen Oxley: Very simple answer. Sebastian, hi. No, it's less than the £450 million, that's for sure.

Sebastian Bray: That's helpful.

Alastair Judge: I think it's also worth saying that the existing refinery is 40 years old. I think we expect the new refinery to have a much longer life than 10 to 20 years.

Sebastian Bray: I see. That's helpful. Could I ask more broadly about the capacity outlook in the refining sector? And I have two questions here. The first is that the current outlook presented is one where demand basically remains flat and supply switches from being

primarily centred around mined supply to primarily recycled supply. Yeah, I think it was mentioned on the call earlier that the marginal recycler is producing at an 80% lower cost than the marginal miner. Doesn't this crash prices in the longer term or am I misinterpreting the data on that if the cost curve shifts down that much?

Alastair Judge: Look, it's a commodity market. And the price of the metals is determined on the supply and demand dynamics. So what the market experiences is the cost of getting it out of the ground or through the recycling process isn't impacting the end price that's achievable in the market when it's sold. So the cost and the price are not linked in this instance.

Sebastian Bray: That's helpful. Thank you. And my last one is on the graph, I think it's slide 14, showing industry, energy, and transport, the high-value PGM products. Currently this is around 60% of the market. It looks like it's growing to about 77% by 2035. Could you give us a sense of how this slice of the pie is divided between different categories, which ones are the biggest, how much is electronics and datacentres, or some idea how this is currently segregated and how it will develop in future?

Alastair Judge: Yeah, so look. As BEVs continue to penetrate the market, we will see a reduction in the amount of the metal that goes into that sector. What we then have is no one solution to where it will all be used. The PGMs are used in thousands and thousands of applications and thousands of industries. So whether it's the petrochemicals industry, the hydrogen industry, sustainable aviation fuels, they're used in a hugely diverse range. We produce a report every year, which is published online. And it has a huge amount of detail in each of the sectors in which PGMs are used. And I won't try and answer it now, Sebastian, but we can definitely point you in the direction of that, which will give you a world-leading view of how PGMs are supplied and where their demand comes from.

Sebastian Bray: If I might rephrase the question for the future market, though. In absolute terms for the industry, energy and transport sector, by 2035, what is the single largest source of demand growth in absolute terms relative to the current level shown?

Alastair Judge: It's spread across the industry honestly. And so I won't try and give you a precise answer now, but it is spread across a huge number of applications. And what we're assuming is that there will be growth for example in hydrogen technology. But our assumptions around sustainable aviation fuel are relatively muted compared to the amount of metals that could go there if companies and governments start to meet the targets they've set. So it's a very wide range of applications with a relatively wide number of possible outcomes in terms of where the metals will go.

Sebastian Bray: That's helpful. And final one. The low single digit CAGR, that's flat metal prices or just your assumption of metal prices that probably is close to flat in the background for EBIT growth?

Alastair Judge: Yes, look, it's based on our assumptions around the basket of metal prices, given that we use five metals in this area; platinum, palladium, rhodium, iridium, and ruthenium. And broadly, our expectations are that the basket of prices will be relatively flat moving forward.

Sebastian Bray: Thank you very much for the answers to my questions in the seminar. It's helpful.

Liam Condon: Thanks, Sebastian.

Operator: Thank you. Our next questions come from the line of Kenneth Rumph from Goodbody Stockbrokers. Please ask your question. Your line is open.

Kenneth Rumph (Goodbody Stockbrokers): Yeah. Hello, everyone. Apologies for the background noise. For those of a certain age, I'm not coming from heaven. It's Luton Airport. Three questions from the specific to the general.

Firstly, HyRefine, I haven't seen a similar technology that also recycles the monomer for the ionomers. It seems to me that everyone would want this. Is there a competitor that can recycle both the PGMs and the ionomer in this way? It looks very attractive. Albeit, we won't be recycling PEM for a while.

Second question related to the point, it feels like there's going to be a lot of supply of autocatalyst scrap, which is going to be palladium and rhodium heavy, and a lot of demand for thinking of blue, green hydrogen and SAF, a lot of demand for iridium and platinum. Is there a kind of mismatch in that way?

And the third question, it was mentioned that the profitability of Product had grown in double digits for the last five years. How does the profitability compare to that sales split that you showed for 2024? Is it similar? Because I guess obviously there's been a big bump in metals and recycling because of the supercycle. I guess Products has grown at the bottom to become relatively bigger. I guess trading PMM in the middle has slightly followed the recycling. Is that right? Are the current profitabilities and margins similar to the sales? Thanks.

Liam Condon: Okay, thanks a lot, Ken. Hope you eventually get away safely from Luton. On HyRefine, Alastair will take the question first because this has really generated an awful lot of interest in the industry. And Alastair can share some colour around that.

Second one as well on supply of autocatalysts and the additional palladium, rhodium versus demand growing for iridium and platinum, and is there a misbalance, Alastair will take that.

And the third one on profitability, Products, Stephen will take that.

Alastair Judge: Yeah, so look. The HyRefine technology that we've patented is very sophisticated. I think it will be important to the market. And at the moment, we are the only ones that I'm aware of who have the capability to do it. So we'll have to watch this space. We have very good competitors and we'll see where they go, but we've definitely got a great product here that is generating a lot of interest from everybody who makes membranes because the environmental benefits are huge from what we're offering.

On the autocat scrap, you're right, we will probably move into a position where palladium and rhodium, the supply-demand balance is in favour of those who want it – there'll probably be slightly more supply than demand. And on platinum and iridium, maybe it'll move against the demand and there'll be a bit of a shortage in supply. And I think the way that we in the market think about this is you have to think about these metals as a basket, right. You can't mine them, you can't recycle them independently. You take the whole basket and you recycle it. And that's one of the reasons that primary mining will remain critical for a long time to come. And it's one of the reasons why when the autocat scrap becomes available, even if the demand for palladium and rhodium is more muted, there's a lot of platinum in it as well and

that will be really desirable for future end uses. So think about it as a basket – five metals very much go together and that supports the overall industry dynamics very effectively.

Stephen Oxley: And Ken, on the relative profitability, you're absolutely right. If I look back, Refining and PMM obviously have been a much higher proportion of the total. Those have come down as metal prices have reduced and we've seen less volatility in the market. And therefore, that means that the Products business as a proportion of the total will obviously grow from a smaller base. As I mentioned earlier, it's also one of the reasons why we'll see less volatility in both the sales and the profits from PGMS.

Liam Condon: All right. Thanks, Ken.

Kenneth Rumph: I'm sorry, if I could follow-up. Are the current profitabilities similar? Thanks.

Stephen Oxley: At the moment, if you assume a third, a third, a third, you're not going to be a million miles off at current levels.

Kenneth Rumph: Thanks very much.

Operator: Thank you. Our next question come from the line of Ranulf Orr from Citi. Please ask your question.

Ranulf Orr (Citi): Hi, all. Thanks for taking, just the one question. Can you just talk a little bit about your slightly nearer-term price assumptions? I think you mentioned broadly flat for the basket. But in the context of scrap coming back supply availability may be increasing, and with the continued decline, albeit a bit slowly, from lower autocats, it suggests the market maybe loosens a bit. Is that the correct way to think about it?

Alastair Judge: Ranulf, I run the risk of disappointing you because we never give price forecasts. We give very, very granular supply and demand forecasts, which are in our annual report or the annual PGM report we do. But we're very careful not to give price assumptions because the supply and demand is not the only thing that drives the price dynamics, sentiment is relevant. And so over time, we are comfortable that the basket of prices is probably in about the place today that it will be for the coming months and years. But we don't give individual forecasts by metal.

Ranulf Orr: Yeah, yeah, fine. Thank you.

Operator: Thank you. As a reminder, to ask a question, please press star one and one on your telephone and wait for your name to be announced. To withdraw your question, please press star one and one again. If you wish to ask a question via the webcast, please type them in the question box and click Submit. Thank you.

We are now going to proceed with our next question. And the question's coming from the line of Chetan Udeshi from JP Morgan. Please ask your question.

Chetan Udeshi (JP Morgan): Yeah, hi, thanks. And thanks for hosting this event. Clearly, a lot of moving parts for us to think about. My question was, if I'm not mistaken, last time we heard from you at the time of results, there was this mention of slower market development for Hydrogen Technologies. How does that impact the outlook for PGMS in the next three or four years? Is there any material bearing on any of the individual businesses or pricing or something that we need to be thinking about?

Liam Condon: Yeah, thanks a lot, Chetan. And we appreciate there is a lot of content in here that's maybe clearly not familiar to everyone. That was really the goal of this seminar, to help unpick the different moving parts of the business and allow you to have deeper insights on it.

On HT, so our, let's say, near-term conservative market development forecasts are baked into our overall guidance that we've given out. So you kind of have to assume that we've taken that into account from a financial guidance point of view. Our expectation is clearly over time, the HT, the hydrogen technology market will grow. And with that, there will be increasing demand for, particularly for platinum and iridium, and in particular for our full-service business model, meaning our ability to supply the metals, manufacture product and recycle. And that's where we're clearly seeing demand in the market. But the overall market is slow to develop right now simply due to lack of clarity from a regulatory point of view and lack of infrastructure, which are ultimately leading to lack of total cost competitiveness. So this will come a bit delayed. And again, that's baked into our financial guidance.

Chetan Udeshi: Thank you. And just on Hydrogen Technologies, again, one of the things we've heard for the last five years, six years, both on fuel cells but also on electrolysers, is this holy grail if you will of essentially getting rid of PGMs. Have you seen some sort of a reduction in that drive given that PGMs prices or platinum group metal prices have actually come down from the highs or is that still the goal for the whole industry? And I guess that's another thing that you have already baked into your forecast I guess – If there is a significant thrifting of PGMS loadings in both on the fuel cells and electrolyser catalysts?

Liam Condon: Yeah, I think it'll probably be a similar development. If you take fuel cells as a specific example, probably it will be a similar development as automotive catalysts where you start off at a certain, higher PGM loading. And over time, and that's our R&D expertise, over time we can reduce the amount of PGMs that are required to get the same level of efficacy. And that's just multiple steps from a developmental process point of view that are required to get there. And that's a service that ultimately we provide then for our customers, that helps them reduce their cost, reduce the price, and over time, you get then to a point where you can have a broader market penetration.

I think practically, we've seen ourselves, we're invested in some technology that doesn't require PGMs, but it's much more nascent. And PGMs have just so many favourable properties per se that the relative cost benefit of using PGMs is typically what ultimately wins out. And the key thing is, over time, that we're reducing the amount of PGMs that are required to remain competitive.

Chetan Udeshi: That's very useful. Thank you.

Operator: We are now going to take the webcast questions. I will now hand back to Martin Dunwoodie, Director of Investor Relations.

Martin Dunwoodie: That's great. Thank you, Razia. We've got a number of questions from the web. I'll start with Tom Matthews from JO Hambro. Given comments about working with policymakers on adoption benefits of PGMs, which near-term policy decisions should investors be watching that could lead to positive revisions to your EBIT growth guidance out to 2033/34?

Liam Condon: So thanks a lot, Tom, for the question. So I'll start and maybe Alastair will want to chime in on this one. So what we've clearly seen in different geographies, whether it's the US, Europe, also China, is an emphasis on critical mineral strategies. And we've been key, we've been sitting at the table in all of these geographies and helping policymakers think through the consequences of the various policies and strategies that they're developing.

We've been pointing out the importance of recycling as a route to market. And we've been pointing out the fact that if you think about primary sourced product, there's really only less than a handful of locations where PGMs, for example, can actually come from, so you can't nationalise that. What you have to do is ensure that you have a free flow of PGMs across different borders. So I think you could look for pointers on those critical mineral strategies and usually PGMs as a subset of those.

In addition, I think we can expect nearer-term further specific clarity in the US on the Inflation Reduction Act. So, for example, the specific requirements that need to be met to qualify for green hydrogen subsidies in the US from a production point of view – that will have an impact on demand for platinum and iridium. And that's expected in the relatively near future. And similarly, there's further work ongoing at a European level to clarify those regulatory requirements. So it's a lot about the specific details, criteria that need to be met to qualify for certain subsidies. That would be a high-level framing. I'll just check if Alastair wants to add anything.

Alastair Judge: I agree completely, Liam. I think some of the government policy is stimulating demand in sectors for PGMs like sustainable aviation fuel and HT. And one of the roles we can play is giving the regulators confidence that as they push demand in those areas, the supply of critical minerals to support their net zero transition goals is robust. And going back to the earlier question here, there is enough iridium, platinum and other metals around to support governments' drive to net zero, and we help them understand how that dynamic comes together.

Martin Dunwoodie: Okay. Thank you. The next one is from Michael Dibon at Alethes. Are you planning to go beyond PGMs into other metals or to additional services?

Liam Condon: Well, let me start on that one because I don't want Alastair to get excited or distracted with his core focus now of driving PGMS. So we're very clear: the core of our DNA is all about PGMs. This is highly-specialty chemistry. This is not bulk commodity chemistry. As Alastair said, this is stuff that's measured in fractions of grams, typically troy ounces. So not kilograms or tons because this is so precious. And that's what we focus on. That's where our core competence is.

We have for example the technical capabilities to drift into other areas, for example, battery materials recycling, but that would require then massive additional capex investments for a relatively low return. So we stick to our guns in the sense of focusing on all uses, all attractive uses for PGMs. We want to remain world champions then in managing those metals and manufacturing them and in recycling them. We don't intend to drift into any other areas.

Martin Dunwoodie: Great. Thank you very much, Liam. Next question is from Vishal Bhatia from JO Hambro. If we take your normalised 2027 PGMS EBITDA of around £250 million and maintenance capex of £75 million, is the underlying free cash flow from the division around the £175 million mark fair?

Stephen Oxley: Hi, Vishal. Yes, that will be about right, yeah.

Martin Dunwoodie: Great. Thank you very much. And then the next question from Andrew Koch at Allianz Global Investors. Can you clarify that the £500 million working capital increase in PGMS from lower metals prices, is this purely coming from negative working capital in this area?

Stephen Oxley: So thank you again for that question. Absolutely right. What we do here is manage metal across the whole group. What we've seen is the metal working capital asset on the Clean Air side of the business, that is essentially offset by a liability, as you mentioned, in the PGMS business. Those two actors as a seesaw, one offsets the other. And therefore there is no impact on the group overall in terms of our cash generation. And we also expect obviously that volatility to be much, much smaller in a more stable metal price environment.

Martin Dunwoodie: Great. Thank you, Stephen. Very clear. Next question from Jeff Largey, Bell Rock Capital, a slightly broader question. An article in the German press today cited Mercedes rethinking their approach to ICE, the internal combustion engine, they're looking to ramp investment into ICE and expect to sell fossil-fuel powered cars well into the 2030s. Whilst this is clearly a positive for Clean Air, how does a longer runway for ICE play into earnings and cash flow for PGMS? And secondly, is JMAT having conversations with OEMs about new ICE platforms?

Liam Condon: Yeah, thanks a lot, Jeff. I think a very pertinent question. So I've personally had a lot of discussions recently with OEMs, of which Mercedes is, of course, a key player. And what Mercedes is saying is basically what almost everybody is saying right now. Originally, I think they all had a strategy to move towards electrification as fast as possible. In the meantime, I think they're all rather saying they want to go where demand is, and if demand is higher for ICE for various reasons, whether it's cost, whether it's infrastructure or whatever else it might be, then they need to make sure that supply of adequate ICEs are also available. So clearly, that is an evolving trend.

I think within this space, what we're also seeing is a growing demand for hybrid cars. And as Alastair mentioned earlier, from a PGM point of view, whether you're driving a pure ICE light-duty gasoline car or whether you're driving a hybrid, the PGM catalyst load is basically going to be the same. So the relative value for us is relatively the same.

So in general, I think the best way to frame it is ICE being around longer does mean, as we've said in our Clean Air business, there'll be more longevity. It will be stronger for longer. And that has a positive impact on PGMS as well from an outlook point of view.

And we are currently talking with multiple OEMs about their planned new investments in ICEs and this is a variety of different investments. For some, it's extending platforms that they had originally planned to phase out earlier. It's now planning to actually upgrade those platforms with new regulations, which gives us a new opportunity to bring in a new catalyst emission system. But it's also entirely new platforms that are being developed. And what we're seeing more and more of from a developmental point of view is demand to help OEMs on their path towards synthetic fuels, and also topics like hydrogen ICE, so using hydrogen in ICE vehicles as a zero emission source of energy, which, by the way, also requires an automotive catalyst. So I think the overall trends are playing to our portfolio. And we are very actively pursuing any and all opportunities with OEMs.

Martin Dunwoodie: Great. Thank you very much, Liam. I'll now hand back to Razia for any follow-ups on the line.

Operator: Thank you. Sure. We are now going to take our next question from the phone lines. And the questions come from the line of Ranulf Orr from Citi. Please ask your question.

Ranulf Orr (Citi): Hi, thanks for taking the follow-ups.

Just firstly on capacity, I think you said you have about 6 million ounces of refined capacity at the moment. With the new facility ramped up, how does that change?

And just secondly, are there costs associated with winding down and shuttering the existing plant? And is this included within the capex envelope that you previously mentioned? Thank you.

Alastair Judge: Yeah, so look, in terms of the 6 million ounces, the goal of the new refinery is to allow us to manage the metal through much more smoothly so we don't get the backlogs. So it will have slightly more headline capacity, but that's more there so we can manage the refinery effectively and avoid the working capital build that Stephen referred to earlier.

In terms of the shuttering, we have taken into account the shuttering costs. But I think the thing I'd say is that when we go and completely close down a refinery that's been around for over 40 years, as we have done with some of the other asset renewals, we would expect to get some metal recoveries back as we decommission it. So the cost of that you could consider to be worst case neutral.

Ranulf Orr: Okay, thank you.

Operator: Thank you. There seems to be no further questions at this time from the phone or the webcast. I'll now hand back to Liam for ending remarks. Thank you.

Liam Condon: Thank you very much, Razia. And thanks to everyone for joining today. We hope that gave you a good insight into PGM Services and why we are so confident in the long-term value of this business. If you have any further questions, please do get in touch with the IR team and we'd be happy to answer them. We look forward to updating you again next time and wish you a nice rest of the afternoon. Thank you.

[END OF TRANSCRIPT]