



Presentation of Results for the Half Year Ended 30th September 2021

Wednesday, 24th November 2021

Welcome

Martin Dunwoodie

Director Investor Relations, Johnson Matthey plc

Morning everyone. I'm Martin Dunwoodie, Head of Investor Relations at Johnson Matthey and a very warm welcome to our half-year results presentation. It's the first time we've done this in person for two years so it's very good to see you all. I'm very pleased to introduce today our Chair, Patrick Thomas, our Chief Executive, Robert MacLeod and our Chief Financial Officer, Stephen Oxley. We're going to have a presentation as usual, followed by Q&A and with that I'll hand over to our Chair, Patrick Thomas.

Introduction

Patrick Thomas

Chair, Johnson Matthey plc

How Johnson Matthey is positioned for the future

Thank you very much Martin, and I'd like to welcome you all here this morning. Thank you also to all of those of you who have dialled in on our webcast and I look forward to hearing your questions later on. As Chairman of Johnson Matthey, I think it's very important that I'm here today at the results to set out the context of how our business is positioned for the future. Given the recent announcement of our intention to exit Battery Materials and some of the other changes that you have seen, I'd also like to give you some background on the Board's decision to appoint Liam Condon as our next Chief Executive.

Following our announcement two weeks ago, I've spoken to many of our stakeholders and a large number of shareholders. And I would like to first start by thanking them for taking the time to speak to me in the past weeks and for the feedback that they've been able to give me. It was a challenging decision that we took on Battery Materials and I'll appreciate that it was a disappointment to many of you. But it was driven by our commitment to deliver value for our shareholders through disciplined capital allocation and it is the right thing to do in the long run. It will enable us to focus our resources on higher returning growth opportunities that are core to the Group's capabilities. Nevertheless, the Board and I regret the impact on the share price and we're determined to restore the value to our shareholders and much more.

We have today announced even further steps to simplify our portfolio in order to focus on our core growth opportunities. You'll have seen this morning the announcement of Advanced Glass Technologies. And in addition, we are in discussions about a potential sale of Health and will provide an update on its conclusion in due course. Following the sale of Advanced Glass Technologies, we've also announced that we will be returning £200 million to shareholders through a share buyback process. We also recognise the need to return to the important topic of capital allocation in due course.

Strong foundations

I want to emphasise that the foundations of the Group are strong with our Clean Air business set to deliver £4 billion of cash in the next ten years and the Efficient Natural Resources business already a leader in many of its markets. We're well positioned to deliver attractive growth. We have great opportunities within Efficient Natural Resources in helping our customers to decarbonise many chemical and industrial processes, and our recycling capabilities will help to create a circular economy. In Hydrogen our leading technologies in fuel cells and in both green and blue hydrogen mean that we're well positioned to benefit from this opportunity that is growing and coming towards us faster as the world accelerates in the transition towards net zero.

Importantly, many of these technologies needed to tackle climate change are underpinned by our catalyst and metals expertise which has been developed as a backbone of Johnson Matthey over many decades. Metal is at the absolute core of what we do, and it is why we are the trusted partner of the – partner of choice for our customers and why we're positioned to win in these markets.

New Chief Executive

We'll have a new Chief Executive Officer, Liam Condon, who will join us on 1st March next year. Robert has been our Chief Executive Officer now for a period of nearly eight years and he discussed with the Board some time ago his intention to retire. I never think he looks old enough to actually qualify to retire but apparently that is the case. On behalf of the Board, I would like to thank him for all the work that he has done to move Johnson Matthey forward. Thank you, Robert.

We had a very rigorous and wide-ranging selection process to select Liam as the right person to succeed Robert. We began the process at the start of the year and engaged a well-respected external agency to manage the process. It has been extremely thorough, evaluating a number of external and internal candidates and we've ensured that we have taken sufficient time to find the right person. Liam was the unanimous and standout candidate in the Board's view as the right next Chief Executive for the company's future.

Liam is a dynamic and values-driven leader. He has a track record of leading science-based businesses whilst delivering consistent performance. Importantly, he is commercially focused on driving growth as well as in modernising organisations. He has a strong external engagement with stakeholders, regulators, and government. And he has operated extensively in Asia, the Americas and Europe. He will be meeting several of the shareholders in the next week and I look forward to you having the opportunity of meeting him in the future. Liam's attributes will all be key for Johnson Matthey as we continue to globally commercialise and scale our attractive high growth businesses to address the climate change challenge. On behalf of the Board, I welcome warmly Liam to the role and wish him great success.

Board priorities

Let me also be very clear about the Board's priorities. We are first and foremost focused on creating shareholder value. We have a set of strong valuable businesses which provide a foundation for exciting growth opportunities. When Liam joins, he will have a remit from the Board to conduct a complete review of the strategy of our Group to determine how we can

best deliver value for you our shareholders. There are no preconceptions or sacred cows. We also recognise that this requires urgency, and we will ensure that Liam hits the ground running on 1st March so that he can report back to you by the time we announce our full-year results later in May.

Robert and Stephen will now take you through the performance in the first half and update you on some of the other progress we have made in our business. And I look forward to any questions you may have afterwards. Thank you.

Business Update

Robert MacLeod

Chief Executive, Johnson Matthey plc

Resilient performance in the first half

Thank you, Patrick, and good morning, everybody. Today I plan to talk about our current business and our future growth opportunities before handing over to Stephen to take you through our financial performance. But first of all, we delivered a resilient trading performance in a challenging environment where some of our key end markets saw weakness, particularly in the second quarter. We have strong foundations in Clean Air and Efficient Natural Resources. And it's the science, particularly in metals chemistry, which is at our heart, that underpins these businesses and will enable us to develop and win in new areas such as hydrogen. We are focusing our investment in delivering on largescale opportunities in climate change solutions where we have leading technology and can generate future value for all of stakeholders and society. And to that end, we've made some decisions around our portfolio which I'll take you through now.

Portfolio changes

Battery Materials

We recently announced that we intend to exit our Battery Materials business and are now pursuing its sale. While our technology was testing well with customers, it became clear that our capital intensity was too high to deliver adequate shareholder returns in a market which is commoditising rapidly. We have some excellent capabilities but it's too early to assess their value. However, for accounting purposes we have fully impaired our assets until we have resolved the sales process. And we will of course update you as soon as we can.

Health

On Health, recent business performance has been challenging, largely due to labour market shortages in the US. And while we continue to make progress with our new products pipeline, we're no longer of the view that the business will achieve £100 million of additional operating profit by 2026. This is due to a combination of factors, including a reduction in the value from that pipeline, a weaker outlook in the existing business due to pricing pressure, and higher investment requirements. But as Patrick said earlier, we're in discussions about the potential sale of the business and will update you when we can.

Advanced Glass Technologies

In addition, we've also announced today the disposal of our Advanced Glass Technologies business and given our strong balance sheet we will return £200 million to shareholders via a share buyback commencing in the new year. These changes will enable us to focus our future investments.

Science and metal expertise at the heart of the Group

All our businesses have one thing in common. The scientific expertise that has been at the heart of JM since its beginnings. Our complex metals chemistry and catalysis expertise underpins all of our current and future businesses. It creates synergies across the Group, has been developed over many decades and is hard to replicate. While our PGM know-how, sourcing, management, and recycling is critical for Clean Air, it also supports our future hydrogen and technologies such as fuel cells and green hydrogen. Our catalyst technologies business also relies on our catalyst and engineering expertise. Our fundamental skillsets are interchangeable across the Group and are readily applicable to the development of a catalyst in Clean Air, Catalyst Technologies or in Hydrogen. So it's our scientific expertise that will lead the way in tackling climate change as global demand for sustainable solutions accelerates. But it's not just about having great science. It's about how we commercialise it, and I'll talk more about our growth drivers on the next slide.

Opportunities drive by climate change solutions

We have three key growth opportunities that each leverage our science capabilities. These businesses are extensions of our current offerings in circularity, hydrogen technologies and the decarbonisation of chemical processes. This is where we want to focus our resources and capital, where we have strong products today and competitive advantage going forward. These opportunities are of course all underpinned by our strong balance sheet and sustained cash generation in Clean Air.

Clean Air

Delivering cash

So looking at each in turn and starting with Clean Air. As you know, this is the cash engine of the Group. It plays a hugely important role in reducing harmful emissions from vehicles as regulation continues to tighten globally. And we are targeting cash generation of more than £4 billion over ten years. And we'll do this through flexing a number of different levers. The first is targeting the strategic business we want to win. We will maintain our leadership positions in light and heavy-duty diesel. And we are being selective and targeting key gasoline platforms. We're already winning future Euro 7 business that we have targeted. These tighter Euro 7 regulations are expected to come into force in 2026 or 2027. And while they will not drive a significant value uplift per vehicle, their increasing complexity should ensure that our pricing remains strong.

Second is driving cost efficiencies. About 75% of Clean Air's cost base is variable. The remainder is fixed at around £550 million today. Our target over the decade is to reduce this by at least £100 million and whilst there is some lumpiness here, you can think of this as declining in broadly a linear fashion. But of course, this can be flexed depending on how the market changes. We're already delivering on our efficiency programmes but the biggest cost lever going forward is the consolidation of our manufacturing footprint. We have 16

manufacturing sites globally but our five newest plants, two in Europe, two in Asia and one in the US, are highly efficient. This gives us the option to consolidate as the market matures and we know how we can do this. We've already significantly downsized our most expensive plant which is located here in the UK and are on track to fully close it in 2023. £100 million of research and development is included within our fixed costs but we must continue to invest in R&D through new legislation cycles but will act quickly to adjust as the legislation winds down and the market matures.

Third is capital efficiency. Recent average capital expenditure in Clean Air has been around £135 million per year. But with our large, strategic investments now behind us we're targeting capex of around £50 million per year in 2025.

And lastly working capital which will unwind in line with sales as the business matures, obviously of course subject to metal price movements. And at the start of this year, there was around £2 billion of working capital on Clean Air's balance sheet. So I hope this gives you a sense of how we plan to navigate the transition and generate cash in Clean Air and at the same time confidence that we have a plan to do so.

Circularity of scarce critical materials

Turning now to circularity. PGM Services is the world's largest secondary recycler of platinum group metals. We have a significant segment share and are more than twice the size of the next-largest refiner. And billions of metal flow through our refineries every year. Recycling will be critical going forward as many sustainable technologies, for example hydrogen fuel cells and green hydrogen electrolyzers, need scarce metals such as platinum and iridium. As our customers have to reduce the carbon intensity of their products, they will value recycled metals more than those from primary sources. This is principally because the carbon intensity is around 2% of primary source metal.

For many decades, the recycling of PGMs was purely an economic decision but this is now a fundamental change. It gives us the opportunity to capture more value from our services as our customers will know that their raw materials come from a low-carbon, sustainable and reputable source. And we have a strong foundation to expand our offering and to help our customers design to recycle, further enabling the circular economy. And we're in the midst of an asset renewal programme across our PGM refineries. This will take several years more but will benefit returns as the capacity and resilience of our refineries is enhanced.

Hydrogen Technologies

A large opportunity and strong competitive advantage

Moving on now to Hydrogen. We're already an established player with a suite of hydrogen technologies, including fuel cells to enable the decarbonisation of transport and blue and green hydrogen production to decarbonise energy. As a reminder, our blue hydrogen technology sits in Efficient Natural Resources as a technology, customers, manufacturing processes and reasons for our success are very closely aligned to our catalyst technologies business. A key part of our success in fuel cells and green hydrogen is our expertise in precious metal chemistry. Also the potential to offer our customers closed loop solutions as well as security of supply is a competitive advantage.

We're already working with many of the leading players in hydrogen and we'll continue to further build our customer pipeline. On the fuel cell side in May we signed a development and

long-term supply agreement starting in 2022 with a major German auto supplier. This customer has recently quadrupled its market expectations or demand expectations which shows the pace at which this market is accelerating. And more recently we signed a new five-year framework contract with the EKPO Fuel Cell Technologies. That's a joint venture between ElringKlinger and Plastic Omnium, mainly for use in commercial vehicles. And you might ask why these customers are coming to us. It's because of our existing capabilities and know-how built up over more than 25 years. This offers customers greater performance, power, and durability from their stack, allowing them to accelerate their journey to bring a competitive product to market. We understand how our CCM performs in their stack and can customise it to help optimise their technology offering.

On the green hydrogen side, our focus is the development and manufacture of catalyst-coated membranes for PEM electrolyzers. And we're already collaborating with major electrolyser manufacturers. We expect our first commercial sales next year and rapid growth beyond that. Earlier this year we signed an MoU with Plug Power and last week we signed one with Hystar, a newly established Norwegian high-tech spin-out company with a supply of key components for green hydrogen production. These are the customers who we can talk about publicly, but we have a strong pipeline of other opportunities.

Today we have manufacturing capacity of around 2GW which can be used for either fuel cells or green hydrogen. But a significant proportion of that capacity is currently being used for new customer development and qualification. We have customer contracts in place. So now we need to scale up our manufacturing capacity quickly in line with our ever-growing expectations. And this was partly behind our acquisition of the Oxis assets earlier this year which we are further developing. And we're also planning expansion in the UK and in China. While this is not a highly capital-intensive business and certainly a long way shy of Battery Materials, we will need to invest around £250 million over the next three years on manufacturing and testing facilities.

Decarbonising chemical value chains

Moving now to decarbonisation. Chemical value chains need to decarbonise. This will require technologies and processes to abate any carbon produced from existing plants, and also alternative routes to produce the same chemicals and fuels without using fossil fuels. Today around 40% of major primary chemicals come from syngas, a key chemical building block used to make hydrogen, methanol, and ammonia. All of which we use in everyday products like consumer goods, fuels, building materials and food production. Decarbonisation requires a re-engineering of the value chain, different processes, and different feedstocks.

Our Catalyst Technologies business is at the heart of this transition. We have leading positions in the supply of both technology and catalysts, and it's that combination that gives us competitive advantage and the confidence that we can drive high single-digit growth in this business over the medium-term. And we're already seeing our technologies starting to be used to enable the energy transition today.

In blue hydrogen we have leading low carbon technology enabling capture of well over 95% of the carbon dioxide. This is based on our deep methanol expertise. And because of that we're a trusted partner and we now have a pipeline of over 20 potential projects. This includes HyNet, which is one of two projects recently selected by the UK government as part

of their plan to deploy carbon capture and storage and provision of hydrogen as an energy source in at least two industrial clusters by the mid-2020s.

Other opportunities for us are sustainable aviation fuels and power to X. And by that I mean converting renewable electrical energy into chemicals for fuels. To give you some tangible examples, over the last few years we've worked with BP to develop the process, technology, and catalyst for one of the world's first projects to produce sustainable aviation fuel from municipal solid waste. Our technology delivers three times the productivity and requires half the capital expenditure when compared to traditional processes. And during the half we supplied and supported the loading of the first catalyst to Fulcrum.

Also in this space we were recently selected by Repsol and Aramco as the technology partner for their power to liquid fuels project in Bilbao. We were chosen due to our syngas expertise, proven track record of scaling up processes and the overall carbon efficiency of the solution. We have in excess of 20 projects in the sustainable fuel cells and chemicals pipeline covering carbon dioxide and hydrogen, municipal solid waste, and waste biomass feedstocks.

In terms of low carbon solutions the immediate opportunity here is the decarbonisation of the installed base. In other words helping our customers to reduce their emissions and the near-term focus is on around 150 plants operating in Europe and North America. It's too early to put a number on the potential value we can provide as the solutions will vary depending upon geography and the size and type of plant. But we're in a strong position to help, given our strong technology and deep customer relationships. For all these opportunities we've given you an idea of the addressable market sizes from now until 2030. And given that many of these markets are still nascent no one quite knows the pace at which they will develop, which is why you can see quite a wide range of potential outcomes.

Our path to net zero by 2040

As we help to build a more sustainable future for society, we're also leading the way by decarbonising our own operations and supply chains. We have committed to being net zero by 2040 and in April 2021 we signed up to the UN Global Compact's Business Ambition for 1.5°C. Alongside this we've committed to our own science-based targets, an absolute reduction in Scope 1 and Scope 2 greenhouse gas emissions of at least 33% and our upstream Scope 3 greenhouse gas emissions of at least 20% by 2030. These have recently been verified by the Science-Based Targets initiative.

As an example, in order to help achieve these goals we aim to source at least 60% of our energy from renewable sources by 2025. Our targets are challenging but they reflect our commitment to sustainability, and they are being increasingly recognised by our stakeholders.

Summary

So to conclude, we've announced our intention to exit Battery Materials and agreed the sale of AGT. And the proceeds of this will be returned to shareholders via our announced share buyback. We've strong foundations in Clean Air and Efficient Natural Resources, which are performing well, despite a challenging environment. We're taking advantage of our core scientific expertise in metals chemistry to focus on three areas, circularity, hydrogen, and decarbonising chemicals where demand is accelerating driven both by regulation and by pressure from stakeholders. So I'll now hand over to Stephen to take you through our financial performance.

First-Half Financial Performance

Stephen Oxley

Chief Financial Officer, Johnson Matthey plc

Focusing on priorities

Thank you, Robert, and good morning, everyone. Before I start, let me just remind you of the key priorities we set out in May, which will tell you how we're managing the business and give you the context for our decision to exit Battery Materials. Our first priority is better execution. We need to bring more discipline to our capital projects, further efficiencies in the business and improve performance. Second is capital allocation, focusing on those areas of the business where we can deliver attractive financial returns. And the third is growth. As the world decarbonises, we are pivoting away from the internal combustion engine to high-growth, high-return, green opportunities, underpinned by our core science and technology opportunities such as hydrogen technologies, renewable fuel cells and materials recycling.

Resilient performance in a challenging environment

So let me now turn to the headlines. We've delivered a resilient performance in a challenging environment. Sales grew 21%, underlying operating profit doubled and underlying earnings per share increased from 48 pence to 115 pence against a first half last year which was impacted by the pandemic. In most of our end markets, underlying demand has been strong, but our performance has been affected by supply chain and labour shortages, especially during the second quarter.

We're navigating these challenges by controlling the things that we can control. For example, we aim to deliver £110 million of annualised savings by 2023/24 and we're well on track. We've delivered £42 million of efficiencies in the first half, helping to mitigate pricing and cost pressures. And this equates to £87 million on an annualised basis. Our balance sheet remains strong. We continue to manage our working capital tightly and net debt has remained broadly flat at around £700 million, resulting in a net debt to EBITDA ratio of 0.9x. And that's below our target range of 1.5-2.0x. Finally, our proposed interim dividend is 22 pence, up 10% on last year.

Group sales recovered strongly, primarily driven by Clean Air

So, let's now turn to the financials in more detail. Overall Group sales for the first half grew 21% to £1.9 billion, up from £1.7 billion in the first half last year. This growth was driven by Clean Air as well as a strong operating performance in Efficient Natural Resources, which also benefitted from higher average metal prices.

Group underlying operating profit

Underlying operating profit grew to £293 million, driven by both higher sales and a focus on efficiency across the Group. Precious metal prices remained high compared to historic levels and, as you can see, we benefitted by around £70 million in the half. However, prices were down from year-end, especially for rhodium and palladium due to that lower auto production. Excluding the impact of precious metal prices, underlying profit grew 54%. Corporate costs were higher and we're taking steps to manage that.

So let's now look at our sectors in more detail.

Clean Air

Strong recovery in end markets; supply chain constraints

In Clean Air, there was a good recovery across all regions, with sales up 24% to £1.2 billion, outperforming global automotive and truck production. Performance was especially strong in our heavy-duty business in the Americas, and we hold a significant proportion of the market there. This was driven by a cyclical rebound in Class 8 trucks. In China, we continue to benefit from a value uplift, with the ongoing rollout of China VI emissions legislation for heavy duty vehicles, and we're now substantially through this uplift, which will annualise over the first half of fiscal 2023.

We ended last year with a strong performance, and this continued through the first quarter. However, the second quarter was more challenging as automotive and truck production was impacted by supply chain shortages, mainly of microchips. Data suggests some small improvement in October, but it's too early to be certain and visibility remains limited. As a result, we're taking a more cautious approach on the full-year guidance. Demand for new vehicles remains strong; so, when shortages ease, we do expect volumes to recover.

Despite these shortages, Clean Air roughly doubled its operating profit to £150 million, helped by its new operating model. We're responding to lower volumes by adjusting shift patterns, revising commercial terms with our customers, and continuing to optimise production across our manufacturing footprint. We're starting to see the benefit of efficiency savings in our operating margin, which, at 12.5%, is now trending towards pre-pandemic levels, and this should further improve towards our target of 14% as supply chains normalise and volumes recover. Finally, we're on track for a strong cash generation for the full year.

Efficient Natural Resources

Strong performance

Moving on now to Efficient Natural Resources, where sales grew 33% to £523 million and both businesses performed well. I'll start with PGM Services, where we play a crucial role in the supply of platinum group metals. Sales grew 46% to £300 million, driven by higher and more volatile metal prices, as well as a strong operating performance driving increased volumes through our refineries. In Catalyst Technologies there are three revenue streams: we license technology for plant design, we sell first fill catalysts and then refill catalysts over the life of the plant. The large majority of our revenues are generated by refill catalysts.

Sales in CT grew 19% to £223 million as demand for refills increased across all of our key segments, particularly in markets where orders were delayed as a result of the pandemic, such as in methanol. We won two further licenses in the first half and our licensing pipeline remains strong, including new technologies focused on carbonisation, such as blue hydrogen and sustainable fuels and chemicals. Underlying operating profit in Efficient Natural Resources more than doubled to £197 million and margin grew from 21.4% to 37.7%, driven by a £60 million metal price benefit and that strong operating performance.

Health

Discussions about a potential sale

Moving on now to look at Health. Despite a strong underlying end market demand, sales decreased 26% compared to the same period last year. Like many similar businesses, we've been affected by acute labour shortages. In the US, we've experienced staff attrition levels of

more than 30% and vacancies running at 10%, which has impacted our ability to make and ship product.

In generics, we've also been affected by price erosion and the impact of delayed elective procedures for our specialty opioids. And, as Robert mentioned, we're in discussions about a potential sale of Health and we will update you on that as soon as we can.

Other Markets

Investing in our new growth businesses

Moving on to Other Markets. We've refocused this segment to simplify and give greater visibility of our progress and opportunities. Our markets now consist of New Markets, including Hydrogen Technologies, which comprises Fuel Cells and Green Hydrogen, growth businesses that we're investing in; and, for the time being, it also includes Battery Materials. Then our value businesses, which we're managing for exit as they are non-core.

Hydrogen Technologies

So let me talk first about Hydrogen Technologies, starting with Fuel Cells. Our Fuel Cells business is well-established in making components used across a range of applications. Increasingly, our fuel cells are being used in trucks and buses, particularly in China, and 50% of our sales are to the automotive industry. In the first half, Fuel Cells revenues declined due to temporary manufacturing issues as we ramped up our new facilities in the UK and China. In Green Hydrogen, we produce key components used in PEM electrolyzers that split water into hydrogen and oxygen using renewable energy. We're working hard to commercialise this business and expect our first commercial sales in 2022.

Battery Materials

And, as you know, we've recently announced our intention to exit Battery Materials. We have started the sales process, but the timing and means of exit is not yet certain. At the end of October, Battery Materials had £340 million of assets, of which £200 million relate to our partly constructed plant in Poland. At this stage, it's too early to foresee what somebody may pay for the business, but pending the sale, we have taken the prudent decision to fully impair these assets at the end of September. Should we be unable to sell part or all of Battery Materials, we may incur further impairment charges, closure, or abandonment costs. Battery Materials had roughly £20 million of operating costs in the first half that will not recur after exit.

Value businesses

Finally, our value businesses that have collectively delivered a good performance, with sales up 11% to £175 million. As you heard earlier, we've also announced the sale of our glass coatings business, AGT, for £178 million, helping to further simplify the Group. This transaction is expected to complete before our year end.

Underlying Operating Performance

I've covered sales and operating profit, so let's now look at the rest of the income statement on an underlying basis. Finance charges decreased from £41 to £29 million, reflecting lower levels of debt and metal borrowings, so we're starting to reap the benefit of tighter working capital management through our finance charge. Underlying earnings per share increased

from 48 to 115 pence and the effective tax rate of 16% is broadly in line with the same period last year, but, of course, tax increased as a result of higher profits.

Reported Results Impacted by One-offs

Our reported results include an impairment charge of £314 million for Battery Materials, being the capitalised costs at the end of September. In addition, we've recognised income of £44 million outside of underlying in relation to a long-standing intellectual property dispute in China. We've received this amount in full in cash and this is an important step, ensuring that we receive value for our work as a world leader in these technologies.

Free Cash Flow

Looking at cash, we generated £189 million of free cash flow in the first half. This compares to £256 million last year. Supply chain disruption across automotive and truck production resulted in a benefit to precious metal working capital of around £300 million, which will unwind as production recovers. Non-precious metal working capital increased, partly as a result of higher inventory levels in Clean Air. And we'll continue to focus on maintaining an efficient balance sheet and low levels of working capital.

Focusing Capital Allocation to Drive Long-term Returns

Before I come to the full-year outlook, I want to cover how we aim to drive long-term returns and value creation through a strong grip on our balance sheet and a disciplined approach to capital allocation.

Sources of capital

We've got a number of levers to generate cash. In Clean Air, we aim to deliver at least £4 billion of pre-tax cash over the next ten years. Efficient Natural Resources will also generate cash, driven by decarbonisation and circularity. And we'll continue to optimise our portfolio by divesting non-core operations, including our value businesses. Our approach to capital allocation is designed to build high-return businesses with an appropriate balance of shareholder return and risk, and at the same time we must retain a strong balance sheet, given the metal working capital requirements across the Group.

Our strong cash generation and balance sheet gives us the flexibility to consider a range of options that drive value for shareholders. This includes investing for growth in climate change solutions, where we will target opportunities that drive meaningful returns, paying a sustainable dividend and, of course, where we have excess cash, returning this to shareholders. Our year-end forecast shows our net debt ratio returning towards the lower end of our target range, excluding the AGT sale proceeds. This gives us the capacity to return £200 million to shareholders through a buyback that we will commence in the new year.

CAPEX Outlook

Turning now to capital expenditure. Following the decision to exit Battery Materials, we have revised our CAPEX outlook down for this year by £150 million to around £450 million. This includes roughly £150 million of spend in Battery Materials. Beyond FY22, we expect CAPEX to be around £400 million, based on current plans and excluding Health. Around £200 million of this is sustaining CAPEX, and the remainder is investment in Hydrogen Technologies and our PGM refineries, both areas where we have existing expertise and attractive returns. And

once our new chief executive is in place, the board will review our strategy and investment requirements, and we will update shareholders in due course.

Outlook for Year Ending 31st March 2022

11th November 2021 guidance unchanged

Finally, turning to the outlook for the full year, which is in line with the guidance given on the 11th of November. Whilst demand in many of our end markets remains strong, the environment has become more uncertain since our trading update in July, given supply chain reduction. Global auto production is now forecast to decline 5% in our current fiscal year, which is a 14% reduction since that trading update. Given lower auto production, a weak performance in Health and ongoing supply chain shortages, we have reduced our outlook for full-year underlying operating performance to a low single-digit growth. In addition, precious metal prices have declined with lower demand from the auto industry. We now expect a full-year metal price benefit of around £45 million, compared to £120 million guided in May. We anticipate a headwind of around £15 million from foreign exchange and, as I just mentioned, we expect CAPEX to be around £450 million.

So, in summary, we've delivered a resilient performance in challenging conditions, with a strong uplift in sales, underlying operating profit and underlying earnings per share. We're working hard to mitigate the impact of challenging market conditions by managing those things that are within our control. We're on track to deliver our targeted efficiency savings and are generating strong cash flows. We're actively managing our portfolio to focus our allocation on areas of growth and attractive return, and as a result, we intend to exit Battery Materials, have sold AGT and are in discussions to sell Health. And, finally, we will return excess cash to shareholders with a £200 million buyback.

And with that, I'll hand to Robert for questions.

Q&A

Robert MacLeod: Thank you, Stephen. So, now, time for questions if you have any. I can see there's a couple of hands went up, quite a few hands up very quickly. So why don't we start at the back. Nancy, you decide who goes first.

Gunther Zechmann (AllianceBernstein): Good morning, Gunther from Bernstein Research. If I can start with a couple of questions. One thing that you put in previous statements but that was missing here is a £200 million revenue target from hydrogen by 2025. I notice that, in the half, hydrogen sales were down, you explained that. Can you just confirm whether that £200 million are still the target, please?

And then, secondly, in Clean Air you talk about being selective in Euro 7. Sounds like you're walking away from business, is that the right interpretation? And, if yes, then why? Thank you.

Robert MacLeod: Okay, thank you. So the answer to the first question is yes, we absolutely are still confident in our target for Fuel Cells, and, of course, the announcements we made today, or the comments we made today, firstly about the German auto supplier quadrupling their requirements, and the framework contract with EKPO gives us even more confidence that that number is deliverable. And look, it's a fast-accelerating market and we can't be sure

exactly what the output will be in five years' time, but we're very, very confident that we'll deliver that number at least.

On Clean Air, Euro 7, look, we've been very clear about the business we want to win, with the customers we want to win with the highest returns. And so we're – it's all part of our strategy about driving that cash flow generation from Clean Air, and that's the decision we're making about how we actually make sure we can maximise the chances of success, so we are being highly selective.

Gunther Zechmann: Thank you.

Robert MacLeod: Shall we just go one over and then we'll come over to this side.

Alex Stewart (Barclays): Hi there, it's Alex Stewart from Barclays. Two questions, I think for Stephen probably. Your New Markets or Other Markets businesses annualising at a roughly £20 million negative EBIT, AGT was about £20 million positive EBIT, so the sort of, pro forma annualised number is minus 40. Can you comment on how much of that is that cost drag from eLNO, which will disappear, and maybe what we expect that Other Markets to be on a run rate in future, given all the moving parts, will be really helpful. And then, on working capital, could you possibly tell us what the receivable factoring position is? I know that's a very specific question, but you disclose it at the full year, and I don't think it's in the half-year release.

And then, secondly, you have working capital days of around 40 at the first half, your target is 50 to 60. Can I ask whether that target is still applicable, and whether, therefore, reversion to 50 or 60 is likely at some point and over what timeframe? Thanks so much.

Robert MacLeod: Sure. I think those are your questions.

Stephen Oxley: Lovely. There's a lot of questions and tell me if I've missed any off. I'll just deal with these in reverse order.

So the target on working capital days remains 50 to 60. It was simply down because it's the averaging effect for the half, with a strong first quarter, but expect that to return towards the target.

Metal factoring, yes, you're right, we've got full disclosure of that in the annual report at year end. The policy and practice are exactly consistent through to the half year, so no change there.

On the New Markets' forward guidance, so the guidance includes Battery Materials essentially, and as I said, the operating costs in the first half were 20 or so, so you can double that. But that, of course, will come out as we exit that business.

Robert MacLeod: That answer your questions?

Alex Stewart: So, in other words, the run rate is flat for EBIT, minus 40, plus 40 for Battery Materials and not recurring?

Stephen Oxley: Well, yes.

Robert MacLeod: Just taking those two things –

Alex Stewart: Yes.

Alex Stewart: Okay, thank you.

Robert MacLeod: Yes. But then, of course, we'll see the growth in hydrogen technologies coming through.

Alex Stewart: Yeah, sure.

Robert MacLeod: Right. So we'll move over to this side of the room. Start with Sebastian.

Sebastian Bray (Berenberg Bank): Hello, good morning. Sebastian Bray of Berenberg Bank speaking and thank you for taking my questions. My first one would be on the performance of diesel, your light-duty diesel, pardon me, within autocatalysts. Has the European diesel market share attributable to Johnson Matthey gone up again? And, if so, is this figure now around 90% on new platforms? If I look at the underlying market performance and compare that to JMAT, is that approximately the right number?

My second question is on the breakdown of the £400 million of CAPEX. It's still quite a lot, it's double depreciation. And Robert, if I take your earlier words on hydrogen investment, we go from £200 million maintenance, £270 if you include the hydrogen, maybe £330 if you have PGM upgrades. Where does the rest go and are these assumptions right?

Finally, two last questions, one technical and one on Fuel Cells. What's a reasonable assumption for finance costs for the next few years, and is there any reason for assuming that fuel cell catalysts will make a different margin in the longer term to other stationary catalysts? Thank you.

Robert MacLeod: Well done, Sebastian, four questions. I think we can, hopefully, answer those. I'll go with – why don't we do them in order and I'll start with the first one, then Stephen can do the second two and then I'll come back with the last one.

So, firstly, on light-duty diesel. No, look, I don't think our market share has gone up. The platforms that we won, we won a few years ago. So the – we haven't won any new platforms or lost any new platforms. I think there's a bit of a mix change in the first half, there's a platform mix change as our customers choose particular platforms for our products, but it's – so it's a mix from the customers rather than a market share change for us.

Stephen Oxley: Shall I pick up the –

Robert MacLeod: Yeah.

Stephen Oxley: – the CAPEX? Yes. So, as you say, a lower CAPEX of £400 million for the next few years; £200 million of that is sustaining, and that's about a one-to-one ratio on depreciation and amortisation. The balance is growth and, as you say, that's about £250 in hydrogen technologies, and the rest is going into our refineries. And, as we talked about at year end, that is really renewal in both the UK and China, and that investment will go on for the next few years.

Apologies, I missed your third question.

Robert MacLeod: Finance charges, finance charges guidance.

Stephen Oxley: On – for the business as a whole?

Robert MacLeod: Yeah.

Stephen Oxley: I'd expect that to continue pretty much as it is. It may uptick slightly as net debt drifts back up towards our target borrowing.

Robert MacLeod: And, lastly, the fuel cell catalysts, I guess when you talk about stationary catalysts you're meaning – I think you're meaning Clean Air or are you meaning catalysts for refills in a plant?

Sebastian Bray: It's the refill catalysts for a plant. There's –

Robert MacLeod: Oh.

Sebastian Bray: – back in 2014 there was a CMD, and I believe 20% EBIT was mentioned as an appropriate level for that. Is that the way to think about fuel cells?

Robert MacLeod: So, look, I think fuel cell catalysts – look, at the moment, as a business we're investing. We're investing for growth and so, of course, when you look at the absolute operating margins it's lower, but when we get to more sustainable margins, yes, I think we should be thinking in that sort of order of magnitude, mid-teens upwards for margins.

Sebastian Bray: Thank you.

Robert MacLeod: Okay. So, why – sorry, Andrew, we will come to you, but we're just – the microphone's easier if we just move across. And then next it will be Andrew, Coral, if that's okay? And then....

Mubasher Chaudhry (Citigroup): Hi, it's Mubasher Chaudhry from Citi. Thank you for taking my questions. Given the decision for the AGT proceeds to do the buyback, is it fair to assume that the cash from the disposals for the Battery Materials and Health will also go towards shareholder return through buybacks or dividends?

And the second question's around – can you talk about the succession process for Joan? Are you looking for internal candidate to continue the strategy that was laid out by Joan, or will you be – or has the mandate changed for that business and therefore you'll be looking externally for candidates?

And then, thirdly, should we expect further disposals from the portfolio, over and above Health and Battery Materials, as you continue down this simplification of the portfolio? Thank you.

Robert MacLeod: Thanks for the questions and, Coral, next one will be Andrew in the front. Do you want to take the first one?

Stephen Oxley: Yeah, on buyback.

Robert MacLeod: Buybacks, yeah.

Stephen Oxley: Yeah. So, look, the AGT proceeds help our position for a buyback, but the decision is very much a capital allocation decision. So, as I said, we expect net debt to trend back towards our target range; that is partly helped by the proceeds, or at least that gives us excess capital, that's what we will return. I'm not going to comment about where we may be in future on other transactions, but let's see. You know, our priority is to invest in growth in the business, as we've said, and we'll review the strategy with our new Chief Executive and see what that means for returns.

Robert MacLeod: So, look, I think the next question was about succession for Joan. Clearly, we're disappointed that Joan is leaving, but that was her personal reasons. She's got a very strong team who have got a very clear strategy, and it's about execution of that strategy. So the existing team that's in place will carry on running that and carrying on executing, and I'm very confident that they are an extremely strong team and can execute that. And, obviously, we'll look at succession. And that won't just be me looking for succession, obviously Liam will – this will be an important part for Liam to be involved in that succession process, and, again, we would look at internal and externals. But it's not about reshaping our strategy, it's about execution of the strategy that we have in place, I think. So a good strategy, a very clear strategy all about cash generation that we've talked about.

And, lastly, on further disposals. Well, look, we've got the value businesses we've talked about, and Stephen mentioned they are non-core, and we'll run them for cash and/or exit if that's the best way to drive the value for shareholders. Beyond that, look, I think it's up to Liam then to – when he comes and joins, and looks at the overall portfolio and the shape of it going forward. So I don't think it's right to talk about the other things, beyond that, at this stage.

Andrew, you've been very patient.

Andrew Stott (UBS): Yeah, morning. Thanks. Andrew Stott, UBS. First question is on milestones and, I guess, a general conversation about communication. Robert, you said it in one of your slides that the addressable markets for hydrogen are huge and very varied because we're at such an embryonic stage, I get that, so it's even more important, I think, that we get milestones. To what extent do you have leeway in that? So an example I'll give you is this morning we saw Fertiglobe come out with 100-megawatt facility, Plug Power a part of that consortium, and I don't see Johnson Matthey mentioned and I don't see a press release. And specifics on that I'm not really interested in, it's more the concept. If you are involved in something like that, can we see that on the day, is that going to be... Or are you bound by contractual terms so that we never really know until it hits your P&L? So that's the first question.

The second question is back on the £4 billion of free cash flow, the commitment there. Does that include the cash costs that are going to be absorbed for restructuring? So, again, you talked about the closure of the 2023 facility, I think you said, in the UK. I guess that comes with closure costs, so would they be included in the £4 billion or are they, sort of, put to the side and put in the Group?

Robert MacLeod: Okay. Look, I think the second question is very easy. Yes, they are included in the £4 billion, simply yes, they are.

On the first one about milestones, look, there's a balance here between what we can say and what we can't say, and there are – as I mentioned, we're talking to a lot of customers about opportunities. Sometimes the technologies haven't been selected yet, which is why the contracts aren't yet in place, but we – when we can talk about a contract, we will, but often, I'm afraid, we can't. I mean, look, you know in Clean Air, for example, we never talk about particular customers because we're bound by confidentiality, but where we can, we will, and we'll give it as best as we possibly can because we want to give as much clarity to you as we can.

Andrew Stott: So, just coming back on that – so, for example, the framework agreement you've announced today, will there come a point where we'll know what the revenues are, or are we just going to have to, again, see how the total hydrogen revenues develop?

Robert MacLeod: I don't think we are in a position to be able, on a contract-by-contract basis, to say, 'This contract's going to deliver this revenue,' and partly, on a framework contract like this, it's volume-dependent.

Andrew Stott: Right.

Robert MacLeod: So I'm afraid, yes, you will have to wait a little bit to see how the numbers come through.

Andrew Stott: Got it. And, sorry, just still one more question. Sorry.

Robert MacLeod: Well, you've got the power, you've got the mic.

Andrew Stott: Stephen, you mentioned some of the mitigating factors in Clean Air, so –

Stephen Oxley: Yeah.

Andrew Stott: – you talked about changing shift patterns. You also, intriguingly, talked about changing customer terms, so I'm interested in that because it's never easy with OEMs as I understand it.

Stephen Oxley: Yeah. Look, I'm not going to go into any detail on that, as you can imagine. But we're looking at all aspects of the cost base and our terms, and the business is, therefore, managing, focusing very hard to deliver its margins and, of course, cash generation.

Robert MacLeod: Andrew if I can ask if you could pass the mic over. Thanks.

Maggie Schooley (Stifel): Good morning, it's Maggie Schooley from Stifel. When I think about the 11th November announcement to exit Battery Materials, one of the key things you talked about was the commoditisation of the market, and the hurdles for EV adoption have been very much driven by the cost of the vehicles, of which batteries is a very big part. So when we think about the underlying £4 billion coming from Clean Air as a function of EV penetration, I notice that the slide that you had in is the same as what it was in April. So on one hand we have the commoditisation of the battery market and increasing penetration, yet you haven't changed your assumptions on penetration by 2030 for EV. How can we reconcile that slightly? And is it more that actually the faster electrification scenario still underpins the £4 billion, and just strategically thinking how can we reconcile that?

Robert MacLeod: So I think what we did six months ago was as you rightly said we gave you three scenarios, of which I think it's clear that as the market is moving forward, you know, over the last six months and going forward, it's moving to the left. It's moving towards the faster electrification case. And that said, when we talked about the market for Clean Air and our cash flow generation for Clean Air six months ago and again reaffirming today, even on the left-hand side case we are still comfortable that we can deliver at least £4 billion of cash in that ten-year period. Faster electrification will likely impact the – because it ramps up over time, the bigger impact is going to be in years eight, nine, ten of that whole cash flow chart or that cash flow generation and we're still confident we can deliver that £4 billion, even if there's a little bit further acceleration of the electrification. We didn't think that it made

sense for us every six months to update charts and then give revised guidance every time, but we are still confident that that £4 billion of cash is deliverable.

Maggie Schooley: Got it. And then the last question, sorry. I only have two.

Robert MacLeod: No, that's alright.

Maggie Schooley: £250 million investment in hydrogen strategies. Currently 2 gigawatts. Do you have an implied gigawatt capacity for that investment?

Robert MacLeod: I knew that somebody was going to ask that question and we'd rather not give that data. It's obviously highly commercially sensitive. But the £250 million is not just on manufacturing lines, it's also on the whole infrastructure you need to do to build the business. Around the Ballater plant but also the testing and application capabilities that we need to have. So from a manufacturing point of view and the gigawatts value point of view, not all of that investment is on just pure manufacturing. But I'm afraid I'm not going to give you the exact number of gigawatts.

Maggie Schooley: Fair enough.

Robert MacLeod: Okay, I think there's another question here in the room and then we might go on to the lines, if there's anybody on the lines.

Nicola Tang (BNP Paribas Exane): Thank you, it's Nicola Tang from BNP Paribas Exane. I wanted to ask firstly about Euro 7. I think Robert you mentioned earlier that you'd already initially signed some initial contract there and I was wondering if you could remind us of the timing and kind of what we know so far about the technical requirements of Euro 7 and therefore how confident you feel in terms of winning more platforms going forward? And I guess the amount of R&D that you need to allocate towards that?

And then the second question was to ask a little more about the link between clean hydrogen and your closed loop concept in precious metals, and whether you can see the same sort of working cap benefit that you see between auto cats and precious metals, and whether that applies and that's a sort of competitive that JMAT has versus the rest of the industry, or is the closed loop competitive advantage just more about knowing the embedded content of carbon within the metals that you supply? Thank you.

Robert MacLeod: Sure. Thank you for the questions, Nicola. Euro 7. Look, it's not enacted yet but everybody and our customers are expecting it to be enacted, to come into force in either 2026 or 2027 but we don't know the particular date yet. But we are winning on – we've already won some platforms. It's largely tightening up NOx emissions, going even tighter there, and we expect that will come through.

The platforms that we're winning are in line with what we expected to do to deliver the £4 billion of cash that we talked about, and we are being quite selective with the platforms we win. As I said, we continue our leadership position in diesel, heavy duty, and light duty, and then in the selective business in gasoline.

I don't think that we – as I mentioned, we're not going to see a significant value uplift. It's just going to make – because there's more complexity in delivering the particular output that's needed from the catalyst, we'll therefore be able to maintain our pricing, we think,

rather than having if this was no new legislation and the last platform wins, then I think pricing would come under pressure. But we think we'll be able to hold pricing where it is.

On the closed loop concept in hydrogen, look I think the strategy is for the customer to own the metal. It'll be their metal. But then what they will want is they will want a catalyst-coated membrane, which has the lowest embedded carbon in the first place. If you can use recycled platinum, iridium etc, that has as I mentioned 2% of the carbon footprint than primary sourced metal. They'll make their electrolyser and then at the end of the life of the electrolyser they'll want to recycle that metal to get the metal back. And so having the ability to offer that closed loop and then give them back another low carbon, catalyst-coated membrane at the end of it, we think has a competitive advantage that we can offer and very, very few other people can.

Stephen Oxley: Can I just add, you mentioned R&D on Euro 7, that is obviously a really important part of winning that business and will remain a significant share of our R&D expenditure for the foreseeable future as Clean Air continues to grow and recapture that business. After that point of course we will be able to refocus our R&D efforts even further towards our growth opportunities.

Robert MacLeod: Okay. I don't think there are any other questions in the room. Oh, I misspoke. Andrew sneaking in another one.

Andrew: Yes, sorry, can I be cheeky enough to ask, can you say a bit more on the Health process? Do you have several parties interested? Are you operating with one party? Or is this strictly a no comment?

Robert MacLeod: Nice try, Andrew. It's a strictly no comment, I'm afraid.

Andrew: Okay.

Robert MacLeod: Another one at the back.

Alex Stewart: Thanks. Just following up on that question. I hope you're able to comment this one, but the issues you're seeing with retention of people and the labour market disruptions in the US, which I think we can all see clearly in the newspapers, but how confident are you that you're not losing employees because health is effectively on the block and in the process of being sold, which is generally a huge disincentivization for people to stay. Is that something that you've thought about? Is that something you can comment on, or you can give us some comfort that it's not a systemic problem? Thanks.

Robert MacLeod: That's a very fair question. It's one we've wondered ourselves. Look, I think our facilities are in the north-east of the US. You know, New Jersey and Massachusetts, near Boston area, where it's a very hot pharma market and so there is a lot of activity, a lot of churns going on not just for us but for the whole industry. Most companies have a significant staff turnover, a rotation of staff going on in the north-east of the US. At the margins, maybe there's an impact on the strategic review, but I don't think that's the biggest element of it. I think the biggest element of it is this rotation. Once that rotation – we don't expect it to carry on rotating forever, we think it will settle down and then we will be able to build staff up again.

Alex Stewart: And I guess related to that, when it does settle down, how much more are you going to have to pay people?

Robert MacLeod: The pay rises are not insignificant.

Speaker: Okay. Thanks very much.

Robert MacLeod: Do we have any questions on the line? How are we doing those?

Operator: Ladies and gentlemen, if you wish to ask a question from the phone, you have to press star one on your telephone keypad. Star one to ask a question. We have one question from Chetan Udeshi from JP Morgan. Please go ahead.

Chetan Udeshi (JP Morgan): Yeah hi, morning.

Robert MacLeod: Morning.

Chetan Udeshi: The first question I have is just looking at the new divisional split within Clean Air. I'm just trying to do some maths here in terms of light-duty diesel. If I remember correctly in the past, the message was light-duty diesel is about 80% of European light-duty sales, but just looking at it through to light-duty diesel sales received, there are probably £120 million more of sales for the first half last year, which is almost 40% of North American and Asian light-duty business. So I'm just curious is still diesel light-duty business outside Europe also significant, and can you remind us if there are any ongoing share slip which is happening or which are happening in those regions, from diesel to gasoline as well? That's the first question.

The second question was, I was curious in your comment around being selective on Euro 7. What prompts you to be selective? Is it the fact that maybe the market is becoming more competitive as people try to grab as many new platforms on Euro 7 and maybe there's a bigger pricing pressure? Because I'm curious why would you not monetise as much of your IP across a higher volume base rather than being selective? Thank you.

Robert MacLeod: Chetan, I think the line was really difficult, so if I don't answer your questions properly, that's perhaps because I misunderstood them. But I think your first question was wanting to know a little bit about light-duty diesel and what's happening there in Europe.

Look, we continue to see a decline in the diesel share. No surprise there, everybody is seeing that in the external market. I mean last year of course the market was impacted by Covid, virtually no activity at all, and obviously so therefore our growth this year will be because of recovery in the market. But as I think I answered a question earlier on, we're not seeing a shift in the market share – our market share – of the diesel platforms. There's been a little bit of a platform mix change, which has meant we've had more sales in our half than maybe other diesel, but that's just a platform mix which will likely reverse in the second half. As far as diesel to gasoline and the switch from diesel to gasoline, that's happening in the external market and our shares are moving in line with that.

Being selective on Euro 7, look, this is all part of our strategy around delivering the £4 billion of cash. Because we need to look at which platforms we want to win, how does that marry up with our manufacturing capacity to make sure that we optimise our footprint and optimise our cost base. And when you're looking at that, then you are selective on the business you want to win. This is not a comment about whether some of this business is good business or not, it's just about how do we optimise and maximise our cash generation from this business. That's our strategy.

Chetan Udeshi: Maybe if I come back to the first question, Robert, it wasn't necessarily on the European diesel, it's on the diesel market outside Europe for light duty, because your sales imply that you have probably 40% of your light-duty Asia and light-duty North American business which is diesel. So I'm just curious what are the trends in the diesel market outside of Europe?

Stephen Oxley: Yeah, I think Chetan I understand the question. Look, I wouldn't read anything into the numbers in the half. You know, we're clearly seeing disruption from the microchip shortages. I'd expect those to kind of wash through but we're not seeing any fundamental change to the business.

Chetan Udeshi: Okay, thank you.

Robert MacLeod: I don't think there are any more questions on the line.

Operator: There are no questions, sir, you can go ahead.

Robert MacLeod: No questions on the line. So we'll call it a day. Look, thank you very much indeed for your time and I won't see you next time, so thank you very much everybody and I look forward to sitting in your seats next time to listen with interest about the progress that Johnson Matthey makes. So thank you very much for your time and your questions, see you again. Bye.

[END OF TRANSCRIPT]