

BHP

Climate change briefing

Investor and analyst Q&A teleconference transcript – Session 1

10 September 2020

Introduction

TRISTAN LOVEGROVE (INVESTOR RELATIONS OFFICER, BHP)

Good afternoon everyone, and good morning to many of you. I'm Tristan Lovegrove. I'm joined by Mike Henry, our CEO, Johan van Jaarsveld, our Chief Development Officer, and Fiona Wild, VP Sustainability and Climate Change. We're also joined by Huw McKay, our Chief Economist.

In a moment, I'll hand over to Mike to say a few opening remarks. Before we move to Q&A, hopefully you've had a chance to see our slides and watch our video presentation. During the Q&A session, Mike will take each question and direct to the other speakers, as required. Over to you, Mike.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Well, thank you, Tristan, and thanks everyone for joining us. We're quite pleased to have the opportunity today to share with you a detailed update on our approach to climate change, and I know a lot of ground was covered, but we think that's absolutely necessary and appropriate, given the scale and complexity of the climate challenge. I hope that once you've had time to digest the materials, and from the discussion that we're now going to have, that you'll take away a few things.

Firstly, a sense for our historic action on addressing climate change, and how strongly this has positioned us in terms of the emissions we control directly. Secondly, our absolute commitment to continuing to play our part and that we're taking real actions with real impact, in terms of reducing greenhouse gas emissions. Finally, the essential nature of the commodities we produce, to the world, on the path to decarbonisation, how we think about capital allocation of our portfolio and the portfolio's value upside in a decarbonising world. We'll work with our shareholders, communities, customers and partners to deliver the high growth, low carbon world to which we all aspire.

With that, I will open up the line for questions.

Questions and answers

EMILY WOODLAND (AMP CAPITAL, ANALYST)

Thank you very much for the great presentation, team, and thanks for the opportunity to say a couple of words. For those that don't know me, I'm a Climate Action 100 Plus co lead investor for BHP. AMP Capital and BHP have been working together on climate change related issues for many years now.

If I may, I'd just like to take a minute or two, just to express my gratitude to BHP for your ongoing commitment to the Climate Action 100 Plus engagement initiatives. These are quite complex and challenging issues, but our partnership is making some great progress.

We set out quite a number of critical asks of the Company at the beginning of 2020, all of which they've worked really hard to deliver, both through today's strategy and the industry associations' piece from a few weeks ago. And this was in the face of unprecedented global challenges from COVID-19, so thank you.

On that list, we were really pleased to see the medium-term targets, and the climate change linkage to remuneration, including Scope 3 and the sophistication of the new scenario analysis, the Scope 3 emissions commitment and the equity-based emissions disclosure. And of course, the industry associations' work with Warmly Welcomed, as well. It's really great to see BHP's analysis demonstrating that it's possible for a leading miner to still create value in a decarbonised world.

Of course, the work doesn't stop here. We're looking forward to continuing to collaborate with BHP on their ongoing projects that will be falling out of this. The execution of the Scope 3 strategy, the release of the adaptation strategy, the use of carbon offsets and the delivery of the climate investment program. So we're looking forward to that.

On that then, if I could kick off with the first question, I'd like to unpack the Scope 3 strategy in a little more detail, please. My question: to what extent is BHP focusing only on steel and shipping versus taking responsibility for the other different elements of their value chain emissions listed on the table on page 28 of the report?

Embedded within that question, I was wondering if you could also explain a little further as to how the decarbonisation trajectory you're targeting for the steel sector is consistent with a net zero by 2050 world?

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Well, thank you, Emily, and I'll start just by recognising the partnership and thanking you for that, and the leadership of Climate Action 100 Plus. It's certainly something that's helped to stimulate our thinking along the way.

Now, there are two parts to your question. I might turn to Fiona in one second, just to talk about the trajectory in a bit more detail, but I'll start with the first, quite important point that you asked, which is, to what extent do all of our Scope 3 emissions matter, and are we focused on all of them?

The answer, in short, is yes. Emissions are emissions, no matter what downstream process they're associated with. We do so want to make sure that our actions have real impact, and I hope that comes through the presentation - that we're focused on tangible actions with real impact. Impact will be greatest if we focus on a few specific areas where BHP has leverage.

That can be where we have specific knowledge and capabilities to contribute, where we have a significant seat at the table, where our actions can be a catalyst for broader change, and in the case of maritime, we're one of the world's largest dry bulk charterers. So we have significant commercial leverage, we have a track record of catalysing change more broadly in that industry, including on matters related to ESG. So, clearly an opportunity there for us to do the same.

Global shipping accounts, from memory, for around 800 million tonnes per annum of CO2 equivalent, so if our action can contribute to broader technological advancement in that industry, then that will have a material positive effect.

Now, in the case of steel, we aren't the largest, but we do have a significant seat at the table, and I believe that our support for those downstream, who are working on technological advancements to reduce emissions, can also have impact. We have specific technical knowhow that can be brought to bear, including on CCUS.

Now, whilst we've called out maritime and steel for particular focus, for the reasons I've outlined, that's not all that we're doing, clearly. We have broader Scope 3 related efforts underway. That includes a CCUS knowledge centre in Canada, collaboration with Peking University in China, involvement in the Otway Basin project in Australia, and work with Melbourne University, Cambridge University and Stanford University, as well, on CO2-related matters.

We also have some investments in technology start-ups that focus on downstream decarbonisation, so we take all Scope 3 emissions seriously, we have a broad range of efforts underway, and we've called out maritime and steel for some specific focus.

The second part of your question, on the trajectory, our trajectory is wholly aligned with achieving the Paris Agreement goals, but I might just turn to Fiona - Fiona, if you have anything you wanted to add on that?

FIONA WILD (VP SUSTAINABILITY & CLIMATE CHANGE, BHP)

Yes, sure, thanks, Mike, and thanks very much for your comments, Emily.

As Mike mentioned, we really have to think about how our value chains are likely to decarbonise in line with the Paris Agreement, and also then the role that we can play to support that decarbonisation.

As Mike mentioned, and as we're aware, it's hard to decarbonise the steel sector, and it may be slower to decarbonise than other sectors, for example, power generation. So really, what we need to do is understand what the steel sector needs to do to have that Paris-aligned trajectory and then to identify the role that we can play to support it in developing those technologies and pathways that are capable of that 30% emissions intensity reduction before 2030 and then with widespread adoption post 2030.

If the steel sector's able to achieve that, then it is a Paris-aligned decarbonisation trajectory.

EMILY WOODLAND (AMP CAPITAL, ANALYST)

Thank you very much.

TYLER BRODA (RBC, ANALYST)

Hi Mike, thanks very much for the presentation today. Two questions: the first one is on page 20, you've got the chart showing the decline of the emissions to 2030. It seems like a very strong goal. I just noticed that there's a big drop off in the later years of that. Can you sort of describe maybe with a bit more colour the path of how you sort of see different technologies taking place to that 2030 target?

Then secondly, I notice that nickel is the metal that you see having the most growth over the longer term, but yet it was only 2% of revenue in the chart you've given on page 14. Can you just describe how you're thinking on the nickel strategy? Is that mainly going to be organic growth for Nickel West or are you looking for acquisitions as well? Thank you.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Okay, thanks Tyler and I'll answer briefly the first part of your question but again, I may just turn to Fiona for some comments as well. The decline to 2030 - if I understood your question correctly Tyler - is basically you can break it into two big pockets. One is reducing Scope 2 emissions from the power that we consume. You've seen the action that we've taken in Chile over the past 12 months to get us on a path to moving to 100% renewable energy for Escondida and Spence. Only in the last week or so we've announced similar contracts for our Queensland coal assets. There's more to go.

That's the biggest lever for the period of the next five years to 2025 and actually to 2030 but we do start towards the back end of that period bringing in efforts to remove diesel from our mines as well. There's various routes to doing that, but the one that we think are most likely to have impact will be probably trolley assist - so this is where with trucks you're able to move them around the pits with a bit of electricity rather than diesel and we'll be sourcing that electricity from renewable sources for the most part.

The second thing that we'll be looking to do is move more of our mines to in-pit crushing and conveying, which again of course relies on electricity rather than diesel. That's towards the back end of the decade because of the timing of fleet replacements and some developments of the underpinning technologies. Fiona, was there anything you wanted to add to that before I turn to Tyler's question on nickel?

FIONA WILD (VP SUSTAINABILITY & CLIMATE CHANGE, BHP)

Just one thing Tyler, just to add to what Mike's said. I think when we look at emissions reduction pathways, I would describe them as being lumpy. You don't tend to get a steady gradient, a steady decline in emissions over time. In the first 10 years we have a very clear and committed pathway to get to that 30% reduction by 2030 and it is a lumpy pathway because it depends on things like fleet turnover or when power contracts are - there's an opportunity there to make changes.

You can see the lumpiness in that first...

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Sorry, Fiona has been cut you off. I assure you it was nothing to do with the quality of the answer, Tyler, but what Fiona was saying was that it can be lumpy because of the nature of some of these investments. The only other thing I would add is we're sitting here looking forward over 20 or 30 years. We try to do the best modelling that we can at this point in time but of course we're going to be in there looking at how we can bring some of these efforts forward. That's why we've said at least 30% by 2030 because we recognise that through some of our efforts and the efforts of others out there, we may actually identify opportunities to bring forward the emissions reductions further in that period.

If I then turn to nickel, you're right. Right now, small business for BHP, but we see this industry and this business having a lot of potential upside. For the world to achieve the Paris-aligned outcomes, there is going to need to be a big push into batteries and electric vehicles and so on. We see growth in nickel demand as being quite strong over the coming decades. Within the overall nickel industry, we think that nickel sulphides are going to be particularly advantaged. We have an incumbent position in terms of both resource and infrastructure so we'll be looking to leverage that base to grow.

We expect potential growth on the production side of things but of course also we expect to see price upside. A combination of the price upside and the growth in underlying production we think can make this an attractive business for BHP. It's only one of the commodities that we've spoken about as being future-facing. We've also flagged copper, where we see opportunity for growth and possibly potash.

MYLES ALLSOP (UBS, ANALYST)

Thanks. A couple of questions as well. First of all, can you clarify how much Capex you'll be spending over the next sort of 10 years on climate related projects? I think you mentioned US\$100 million to US\$200 million per year so is that US\$1 billion that you're spending in total and what return are you expecting on those projects? Then the second question is just - I know you guys always think over the long term. As you look out over the long term do you think BHP will own an oil business in 15, 20 years? Thank you.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

What I'll do is I'll answer the second question, Myles, and then I'm going to turn to Johan just to talk about the Capex profile. On oil, both in our recent results presentation but also in the climate change materials that we've provided, you've seen the deep analysis that we do from a scenarios perspective, so we don't think in terms of single point outcomes. We think about the different ways in which the world could evolve. In all of those scenarios, we see - as others see - ongoing need for oil and gas for the foreseeable future, and that's because it's essential to human mobility and to many of the industrial processes that underpin life as we know it today.

Certainly over the next decade, likely beyond but certainly over the next decade, we have a high degree of confidence that this is a business where good returns - value growth and returns - can be generated for shareholders. We've demonstrated, and you'll see that in one of the slides in the pack, that we're able to do this at a lower carbon intensity than most others out there. In meeting the world's ongoing needs for oil and gas, given the capabilities that we have, we think this is a business that we will continue to invest in.

Over the long, long term, we review this regularly Myles. I've been clear that in due course oil will be a less attractive commodity but for at least the next decade, likely beyond, we think it's going to remain attractive and we'll continue to reassess our position over time. But, for the foreseeable future, yes. We're committed to continuing to invest and grow value through this business. Johan, I might turn to you now for Myles' first question which was around Capex over the next decade.

JOHAN VAN JAARSVELD (CHIEF DEVELOPMENT OFFICER, BHP)

Yes, thanks Mike, and Myles - thanks for the question. Yes, we did say about US\$100 million to US\$200 million per year over the next 5 years. We think sort of by way of illustration, over the entire decade, and of course it's early days, but we think the total number for the entire decade inclusive of the US\$100 million to US\$200 million per annum over the next 5 years is something in the region of US\$2 billion to US\$4 billion. It's a wide range. Some - a lot of this includes new technologies. But it just sort of gives you an indication.

Obviously this is not guidance. If you look at the abatement curve in the appendix you'll note there that a lot of these projects are actually NPV positive but some of them are at an earlier stage of maturity. Hence, we need to work to improve them. Maybe the final point to make on this is some of the spend will also include fleet replacement that we would have had to do anyway. Just another point to keep in mind. Obviously fleet will get replaced when it's sort of at the right time in their relevant life cycles.

MYLES ALLSOP (UBS, ANALYST)

Just to be clear, in terms of returns we're talking above cost of capital but sort of single digits, high single digit returns. Is that the type of return you expect on these projects?

JOHAN VAN JAARSVELD (CHIEF DEVELOPMENT OFFICER, BHP)

Yes, I think we would expect these projects as we study them and optimise them - these ranges certainly include a positive NPV outcome.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Myles, if I could - one thing I would just like to state there is I think many times or often times people look at the capital that you would spend in this space as being a cost and the point that we're trying to get across is for many of these projects these are genuine projects that return - as you say - above cost of capital. Internally we maintain that tension, so when projects come forwards they get looked at through the lens of the capital allocation framework.

JASON FAIRCLOUGH (BANK OF AMERICA, ANALYST)

Good morning folks, thanks for the presentation today. I'm just wondering, could we talk a little bit about cost of capital, hurdle rates and your capital allocation framework. I'm just wondering, given the focus today on decarbonisation, how do you think about allocating new capital to carbon-intensive commodities like oil, like coking coal, and ultimately do you think you should have a different cost of capital or a hurdle rate or is there some better metric to consider when you're thinking about putting new money to work here?

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Okay Jason, good question. I'm going to turn to Johan but just before I do that I'll provide a high-level view on it. That is we talked about our capital allocation framework and it's really important to note that this isn't something where we look at a single number which is NPV or IRR and first past the post gets up. We look at a range of financial metrics - so different metrics - but also ranged outcomes within those metrics and we look at the qualitative risk that exists in the project as well.

I can't give you a straightforward answer that says we just apply a different cost of capital. The risking comes into the rounded way in which we assess projects, but if you had two projects - one was in a commodity that we thought had more confident returns for longer, with all the equivalent other financial metrics to a project where we were confident for a shorter period of time then yes, the first one would get up. The other thing I would note is that specifically in respect of oil, given that you've called that out, we've been clear that we are approaching investment that we have greatest confidence that will pay back, or we can be confident will pay back, within a time frame when we're most confident of the market fundamentals.

Of course, many of the oil investments that we make have shorter payback periods than mining investments - so as long as we're pursuing the right ones then we can secure that payback within that decade of greatest confidence that I mentioned earlier. Johan, maybe you just want to add a few comments here?

JOHAN VAN JAARSVELD (CHIEF DEVELOPMENT OFFICER, BHP)

Yes, thanks Mike. Jason, I think as we also mentioned - I think it's about 2 years ago now when we had our capital allocation shareholder engagement - we don't actually use a hurdle rate. We do everything in ranges and as Mike said, just like we've looked at our scenario outcomes in a range here for the climate change strategy, we also look at the risk and reward of each project in ranges. One thing I may add though is that we've since - it's 16 years now that we are using carbon prices in our valuations and in our decision making. So, in our plans, in the way they get designed, in the way we look at growth projects, we use these carbon prices as it basically goes to opex and lowers your returns.

So, that's an added inclusion in how we approach valuation and decision making and then from a portfolio level capital allocation perspective, every project has to compete, so there's no favourite and then I think we stressed that again two years ago; that hasn't changed. In fact, we've probably become stricter and the hurdle, if you like, to get capital has certainly - the bar has raised over the last two years.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Thanks, Johan.

JASON FAIRCLOUGH (BANK OF AMERICA, ANALYST)

Guys, could I just push you a little bit on this? If we think about what's happened with thermal coal, if I try to back out an implied cost of capital for thermal coal miners these days it feels like it's north of 15%, if not 20% and so is there a risk that by keeping these businesses around, you end up being long while you go through this period of major derating? Put another way, wouldn't it be better to get out sooner before that happens?

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Thanks Jason. So you're drawing a direct line between the multiples that you see for thermal coal companies currently - and ascribing all of that to the market views of holding thermal coal assets currently. Personally, I don't think it's that straightforward - and again, I'll turn to Johan in a second - but I think if you look at what's happened with thermal coal companies, even some of the European oil and gas majors, you also have to look at where's their balance sheet at, what stress are they under because of dividend policy, overall strategy and portfolio.

So, we're not a single commodity thermal coal company or an oil and gas company, we've got a diversified portfolio and so we think that there's other reasons that will be driving the multiples that some of them see. Having said that, of course we're attuned to this and we do reflect on the trends that we're seeing, but then we need to make judgements around how long will certain commodities be attractive for and then how should we shape our portfolio over time in a staged fashion, taking into account the risks that we see, the opportunities that we see and one of those of course is the risk of derating.

But Johan, maybe you want to elaborate?

JOHAN VAN JAARSVELD (CHIEF DEVELOPMENT OFFICER, BHP)

Yes, thanks Jason. Just on energy coal, I just want to deal with that one quickly because we have said that we are going to exit our energy coal assets. As far as the other derating arguments go - and we hear them a lot and I think there's a possibility attached to a derating argument but also - we need to think about the probabilities that we're talking about.

So, the best way I think to approach this is to think about this logically. So, if we accept that these commodities that we produce are going to be needed by the world even through the transition - and yes, we think maybe in a decade or two oil will come off - but I don't think we can argue about the fact that these commodities are needed by the world. That includes copper, that includes nickel, that includes steelmaking materials because steel needs to support this transition through decarbonisation.

So, if you then say okay, these commodities are needed by the world, then you turn to okay, who's the best people to produce these commodities? I want to put to you that if you can do it safely, you have low-cost assets that you run well, has low-emission intensities, it becomes a hard argument to say, okay, these things are going to derate.

You have to say okay, on what basis is this going to be derating versus other folks? I think that last point here is around diversification. Of course, this is obviously different to some of the oil companies. We are diversified across a bunch of these commodities and that does give us options.

JASON FAIRCLOUGH (BANK OF AMERICA, ANALYST)

Okay, thanks guys, I think it's going to be an ongoing discussion, that one, but we'll take it offline. Thank you very much, appreciate it.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Thanks, Jason.

HAYDEN BAIRSTOW (MACQUARIE, ANALYST)

Hi Mike, just a couple from me. Just firstly on the comments you made around working on the Scope 3 in steel specifically, are you talking about BHP getting more directly involved? Obviously, the downstream iron ore stuff that a number of companies including yourselves have tried before has been less than successful, I guess.

I just want to understand what the work process would be there and is part of that to underpin getting Scope 3 out of iron ore start to cannibalise the met coal business? Then the second question just on the targets, particularly 2030. Is that assuming any portfolio reshaping or sale of some of these assets you've announced or starting at any those things in those targets? Thanks.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Thanks, Hayden. I'll start with your second question. The targets that we've put in place are agnostic to divestments and acquisitions and so what I mean by that is if we were to divest an asset that was Scope 1 and Scope 2 intensive, we would actually change the baseline.

So, there's no free kick here for divestments but if we elect to develop a project or grow production out of an asset, then we have to find other means of achieving decarbonisation and we think that by holding ourselves to account on that, that helps reduce carbon intensity over time.

Again, I would just point out in case it's been lost on anybody and Johan referenced it earlier, if you look at the intensity curves that we have, I think it was on slide 16 maybe, we are already well-positioned. So, we're starting from a very good base or very low base of emissions intensity but we want to drive that further.

Now, if I come back then to your question on Scope 3 and what does that actually entail, in the first instance it entails us getting together with steelmakers and others in the value chain to pursue largely technology development to reduce emissions in steelmaking.

Now, of course one of the roots for doing that is something like hydrogen-based DRI which could pose long-term - or could displace some coke and coal demand longer term, but we and others think that that is likely to occur well into the future and so the steel industry in the near term, over the next couple of decades, will need to pursue other means of reducing their emissions intensity.

That can include things like CCUS, it can include using higher quality products, both in iron ore and coke and coal, and things like hydrogen or oxygen injection into the blast furnace and we will look at opportunities to collaborate with steel mills on developing these routes to decarbonisation. We've committed to entering into two of those arrangements this year but that won't be the end of it.

We'll be looking at what further arrangements or partnerships we can create in years ahead. Fiona, was there anything you wanted to add on this?

FIONA WILD (VP SUSTAINABILITY & CLIMATE CHANGE, BHP)

Yes, sure. Just going back to your comment around the Scope 1 and 2 target and the acquisitions and divestments, I'll just draw your attention if you get a chance to have a look at the climate change report.

So, on page 22 in that report that we launched today, we actually show how our emissions and our baseline for our targets have changed over time and so you'll see that, for example, when we demerged South32, as well as removing those emissions from our reported total we also changed that baseline to make sure that what we're targeting is the emissions reductions in the assets that we own so we don't get, as Mike said, a free kick for divestments. Just to add that one, so it's page 22 in the report.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Hayden, I'll just pause on this one because I think this is a really important point. I don't think it should be open to companies to claim advance on emissions reductions just because they divested certain assets because at the end of the day, that does nothing for the world in terms of reducing actual emissions.

So, everything that we're focused on here is effort to reduce actual emissions, not just to shuffle things around in the portfolio.

HAYDEN BAIRSTOW (MACQUARIE, ANALYST)

Okay, perfectly clear. Thanks for that.

SYLVAIN BRUNET (EXANE, ANALYST)

Hi Mike and team. Just following on on your comment on Scope 3 and the efforts you're doing with the steel industry already. I'm curious to know if you feel and your teams feel that they're getting the same traction from your clients in all regions or if you feel that some regions are less committed than others.

My second question is on the climate investment program, the \$400 million fund, just to clarify whether this is strictly a BHP fund or if you would be prepared to open this fund to others and make it a more a joint initiative.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Okay, that's a really interesting one. Johan, I'm going to ask you for comment on that second question, but on the first one just around the extent to which we're seeing interest from steel mills and others in the value chain across regions, I'd say that we're still exploring opportunities but there's been interest and we're engaged right across the world.

Now, the nature of the sorts of things that people are interested in may change depending on the region and the current state of the steel industry there, but I wouldn't say that there's any region where people have just said not interested and they don't see this as an issue. The steel industry globally sees this as an issue.

Now, Johan, I might just turn to you from that thought that Sylvain has had around, well, is this a fund that you could open up to others? I think that it's probably best to start with an explanation of what the fund actually is first and then go to the question about the extent to which others can be involved.

JOHAN VAN JAARVELD (CHIEF DEVELOPMENT OFFICER, BHP)

Thanks, Mike. I think the simple answer to the second part is that we haven't contemplated opening this up. We call it a climate investment program or fund but really what it is is, it's a committed allocation to spend \$400 million over the next five years on new projects, if you like, where that will directly go to advancing our emissions reduction objectives.

For Scope 1 and 2, we think it's probably around half of this amount and Scope 3 about roughly the other half. We identified projects through our annual planning processes, these projects go through our normal optimisation processes through our investment tollgates, they compete for capital as well and this capital then gets allocated.

Through the most recent planning process, we've allocated quite a big portion of this capital already in the forward-looking five-year plan. But it's not a fund like you would see in the financial industry where you have LP's and folks have come in from the outside and invest, but it's an interesting idea. That could potentially be an opportunity for us.

SYLVAIN BRUNET (EXANE, ANALYST)

Thank you.

LIAM FITZPATRICK (DEUTSCHE BANK, ANALYST)

Thank you, good morning everyone. Two questions from me, firstly on your scenarios. I'm just looking at slide 14, and you give the demand outlook under the different climate scenarios. I was surprised to see that for met coal, even under the 1.5-degree scenario, it doesn't appear that there's much of a demand impact under your modelling. Can you maybe elaborate what you're assuming in terms of the uptake of hydrogen steel and scrap within that scenario?

Secondly, in terms of Scope 3, I know you've partly answered this already, but when you say support for emissions reductions technologies in steel, can you elaborate on any of the partnerships or plans that you're currently working on, and/or when do you think you'll be in a position to provide more details on that front? Thank you.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

I'm going to turn to Huw to elaborate on the met coal question, Liam. In terms of the steel partnerships, can't announce it yet, but we've committed to entering into two, at which point we'll be able to announce them this year. But there'll be a wide range of things. We think we have particular know-how and capability to bring to bear on CCUS, so that'll be a key area of focus for us, but not necessarily exclusive to that. I just ask you to watch this space, and within the course of this year we'll have a couple to talk more about.

Now on met coal, and your question around why aren't we seeing more of an impact in lower carbon scenario. Huw, maybe if you can talk to that. I'll just start by saying that we already, so even in our central scenario, have assumptions around scrap penetration that are more aggressive than many others out there, so that can be part of it. But, Huw, maybe a bit more detail please.

HUW MCKAY (VICE PRESIDENT MARKET ANALYSIS ECONOMICS, BHP)

Thank you, Mike. You're absolutely right, we already have very aggressive scrap to steel ratios in our business as usual forecasting case. That doesn't change very much in the 1.5-degree pathway, because it's all about the availability of that stock, not actually accessing it to a greater degree. But there are three reasons why met coal is very resilient in the 1.5-degree scenario.

One is that steel demand actually does surprising well in the 1.5-degree pathway, because it does generate some incremental demand from things like additional wind turbines, CCS pipeline infrastructure, and the like, which actually gives you a stronger demand profile than under a business as usual.

Secondly where the pig iron growth is coming from, which is what matters for met coal, isn't where the scrap availability is going to be increasing. The third is that those markets tend to be very short on met coal from a geological point of view. India is your case in point there. The scrap availability will not be there, the indigenous endowment of met coal is not there, and that's where a lot of the pig iron growth is anticipated in the coming 30 years.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Liam, the only other thing I would add to what Huw has just said, for the steel industry to decarbonise, over certainly the next 10 to 20 years a key area of focus for them will have to be, or one of the areas of focus for them will have to be blast furnace efficiency. We see that for the high-quality hard coking coals, they will lend themselves well to that push towards decarbonisation over that time horizon.

LIAM FITZPATRICK (DEUTSCHE BANK, ANALYST)

Thank you very much.

TIM GERRARD (JANUS HENDERSON, ANALYST)

Good. Just one question from me, you talked about copper and nickel, obviously they're important in the decarbonisation world. But equally you talk about potash, could you just clarify for me please whether you were talking about potash at all in the sense of climate change or decarbonisation, or you're really just talking about that as another area for new demand? Thank you.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

No, it's very specifically associated with climate change and decarbonisation, Tim. Even barring that trend, we believe potash demand will grow, but in a world that is focused on decarbonisation, we think that there's upside there for potash. Why? Because in a decarbonising world there will be greater pressure on arable land, I think the agricultural industry is also a key contributor to emissions globally. Anything that will contribute to that activity occurring in a more efficient way will be needed. Potash, because of its effect on yield, can be a key contributor to that.

HUW MCKAY (VICE PRESIDENT MARKET ANALYSIS ECONOMICS, BHP)

Yes, just a quick point, Tim. I'd alert you to slide 13. There's a really compelling statistic there around the amount of land which is going to have to be used for afforestation for the 1.5-degree pathway. That's a very big number in a world which is actually systematically losing forest today, competition with other land use.

If you think arable land is squeezed today, you turn it over to bio energy CCS in scale, the productivity imperative and the need to intensify agriculture is just amplified. That's why the subheading on that slide also says, change in land use systems is going to be a big contributor to getting us where we need to be.

TIM GERRARD (JANUS HENDERSON, ANALYST)

Thank you, that's very useful.

PAUL YOUNG (GOLDMAN SACHS, ANALYST)

Hi Mike, Johan, and Fiona. Mike, a few questions on your Scope 1 and 2 reduction strategy. The first question is on operating cost benefits, obviously there are benefits for your investments under the central carbon scenario to be NPV neutral. Two questions here, one is on the benefits you'll think you'll gain from Escondida and met coal through the push for renewables. Then probably a question for Johan about the broad based opex benefits, whether you can give a certain guide in percentage terms to hit the minus 30%, and also the net zero targets. That's really the first question opex.

The second one, Mike is on diesel for haul trucks. It's really the Holy Grail for open cut mining and reducing Scope 1 emissions, and it looks like there's some disparity, I guess, technology approaches out there. We've got one of your peers looking at hydrogen, fuel cells, you're looking at trolley system batteries. I'm curious about the different approach.

Secondly, also if you take a step back and look at automation in trucks, arguably you were the third entrant into that technology with Rio leading, and FMG really overtaking everyone. I guess the question there is are you happy to watch this technology evolve, or are you actually happy to work more aggressively with the OEMs this time, and actually what are you doing on that front? Thanks.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Paul, sorry, I'm just going to ask for clarification on the second part of your first question. I heard the point around Escondida and the benefit of moving to renewable energy there on opex, but what was the second part of that question.

PAUL YOUNG (GOLDMAN SACHS, ANALYST)

Second part is what operating cost benefits broadly across the portfolio have you embedded into the net zero numbers to actually make the central carbon scenario NPV neutral, or slightly positive?

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

I just want to clarify, we're not saying, and Johan wasn't indicating that all projects required to get to that 30% reduction by 2030 will necessarily be NPV zero. There's further work to be done on the individual projects, but we're optimistic at this point in time that the bulk of them, I think fair to say, Johan, will be NPV positive.

But as to the exact opex benefit associated with it, Paul, I suspect this is one that we're going to have to come back to you on, because it will require a little bit of unpacking. Unless, Johan, there was anything you wanted to mention now.

JOHAN VAN JAARSVELD (CHIEF DEVELOPMENT OFFICER, BHP)

No, I think Mike, the only thing to mention is that goes straight to opex at Escondida, is that the power contract we entered into has significantly lowered our power cost in Chile, that goes to opex.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

We're looking at, in terms of the power cost for the Eastern Australian contracts, I think certainly within the contract term it's potentially 30% lower than power costs would have otherwise been. But as to what that translates to in terms of a per tonne number, not quite sure, Paul.

On the second question around diesel and haul trucks, you're right, there are different technologies out there. I think the technology that gets selected will be in part dependent upon the specific circumstances of the mine as well. I don't think this is going to be one technology overtakes all others, I suspect that there will be a bit of all of these. We think that trolley assist and in-pit crushing and conveying are likely to be more economic sooner than the hydrogen-based fuel cells for haul trucks, although you could see some hydrogen being used in ancillary gear on site.

Now your question around, well what are we doing to – are we just going to follow, or are we participating in development of this? Very much the latter, so this is something where within the ICMM we've been leading a group of ICMM members to come together to work with OEMs to find or to stimulate development of safer, cleaner vehicles.

But in addition to the work that we are doing through the ICMM, we have direct engagement with the OEMs where we're having specific discussion. In fact I spoke with one of them last week specifically around the technological development path for haul trucks and the initial move to hybrids, how trolley assist might play into that, and so on. A lot of effort going on here.

The final point I'd note is that we've brought together a hydrogen consortia between ourselves, Anglo American, FMG and Hatch to share insights and to collaborate on matters relating to hydrogen.

PAUL YOUNG (GOLDMAN SACHS, ANALYST)

That's great, Mike. Just a quick follow up. On the trolley assist, do you envisage that this is applicable to, or can be used across all your open cut sites, i.e., met coal, iron ore and Escondida?

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Yes, but the question is to whether it is the best option or not is yet to be determined. Can it be deployed at all sites? Yes. But it's always going to be a competition at our mine between in-pit crushing and conveying, and trolley assist. I wouldn't want to call yet which mines will we see trolley assist being better at, versus in-pit crushing and conveying. That's work we'll undertake in the coming years.

PAUL YOUNG (GOLDMAN SACHS, ANALYST)

Okay, thanks, Mike. Great presentation, thanks for your time.

TRISTAN LOVEGROVE (INVESTOR RELATIONS OFFICER, BHP)

Operator, I think we've just run over time, so I want to just thank everyone to join us. Mike wants to say a few words. I would just encourage those in Australia or Asia that we do have another call at 8:00 am tomorrow morning Australian time, so please join in if you didn't have a chance to ask your question then. With that I will hand over to Mike to say just a couple of final words.

MIKE HENRY (CHIEF EXECUTIVE OFFICER, BHP)

Thank you everybody for joining again. As I said upfront, I hope everybody takes away from this the essential nature of the commodities that BHP produces, and the role that those commodities have to play in decarbonising the world. We've laid out the further 1.5-degree scenario today, and you can see that not all commodities fare the same in that world, but in aggregate that's a positive for the portfolio. This point we're making around a decarbonising world being good for BHP from a value perspective, I think is a very important point.

We're committed to taking action, so the action that we've taken in the past has already positioned us with lower Scope 1 and Scope 2 emissions footprint of the major miners, but we're going further. Another 30% reduction in the next 10 years, and we're engaging in a very tangible way with real actions for real impact with others in the value chain to reduced Scope 3 emissions at all times thinking about how we can leverage our participation or our actions on that front to catalyse broader impact in the industry.

We look forward to engaging with all of you further on this in due course. If you have any other follow up questions, and you can't make tomorrow's session, please feel free to follow up with Investor Relations. Thank you.

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