

# ASX Announcement

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Woodside Petroleum Ltd.

ACN 004 898 962

Mia Yellagonga  
11 Mount Street  
Perth WA 6000  
Australia

T +61 8 9348 4000

[www.woodside.com.au](http://www.woodside.com.au)

## INVESTOR UPDATE 2021 TELECONFERENCE TRANSCRIPT

**Date:** 8 December 2021

**Time:** 09:30 AWST / 13:30 AEDT

**Meg O'Neill:** Welcome back to the Investor Update 2021 question-and-answer session. Today, we revealed our strategy for thriving through the energy transition, outlining our vision for a low cost, lower carbon, profitable, resilient and diversified Woodside. We have set a new target to invest \$5 billion in new energy products and lower-carbon services. And I discussed our capital allocation framework for investment as the energy transition unfolds. I am very pleased to have this opportunity to speak with you directly today, and with that I would like to open the session to questions.

**Operator:** Thank you. If you wish to ask a question, please press star 1 on your telephone and wait for your name to be announced. If you wish to cancel your request, please press star 2. If you are on a speakerphone, please pick up the handset to ask your question.

Your first question comes from Daniel Levy from Citi. Please go ahead.

**Daniel Levy:** (Citi, Analyst) Hi, Meg. Thanks for the presentation today and it's great to see Woodside taking investment in the transition seriously. I'm just looking at the investment hurdles you've set yourself for new energy projects and they look pretty ambitious versus projects seen to date in the market. The general idea of these projects being low return but low regret. Are you able to confirm if any of those four new energy projects you outlined today have been modelled to have IRRs over 10% and paybacks of less than 10 years or are those hurdles reliant on improving technologies and economics between now and FID, just noting that you plan to take FID on H2OK next year.

**Meg O'Neill:** Thanks, Daniel. An excellent question. The hurdles that we've put out are hurdles that we do think are credible, and maybe it's worth talking a bit more broadly about how we've looked at the lower-carbon energy space. We've spent quite a bit of time looking at different investment choices. We've looked closely at things like solar and wind and we've decided those are not areas that we are particularly interested in pursuing, largely because of the reasons you described, that they have very low barriers to entry, it's a very hotly contested market, and the returns commensurate with that level of competition are lower.

When we look at things like ammonia and liquid hydrogen in particular, whilst those sorts of investments don't have the upstream risk of a conventional oil and gas opportunity, they are projects that do require technical capability, they require the operations of major hazardous facilities, it builds on the capabilities that we have and we do think those sorts of returns are credible. The projects that we've put forward, we do have line of sight to those sorts of returns for those projects. But of course, it is dependent on stimulating sufficient demand from the markets to enable those projects to move forward at the pace that we've outlined.

**Daniel Levy:** (Citi, Analyst) Understood. Thanks for that. Then just finally, I'm trying to make sense of the Scarborough contract with Bechtel. You said 90% of the costs are fixed rate but you've also mentioned that you're in the process of trying to lock in 75% of steel prices by I think it was first quarter next year. Are you able to confirm just how exposed the Scarborough cost estimate is, or at least was at the point of FID, to

movements in material costs like steel? I thought they would have been included in the fixed portion of that Bechtel contract.

**Meg O'Neill:** Great question, Daniel. Let me clarify a few points. The Bechtel contract is for Pluto Train 2. The Scarborough portion, so the offshore, we have a number of different contractors: McDermott for the floating production unit, the Subsea Integration Alliance for the subsea, umbilical risers, flowlines; Europipe, Saipem, Boskalis for the pipeline and Valaris for the rig. So, a number of different contractors there. The Bechtel contract for Pluto Train 2 is a lump-sum turnkey contract, and when we've quoted things like the 90% of the contracts for the total project being either fixed or lump sum, that's 90% across the upstream and the midstream part of the overall development.

**Daniel Levy:** (Citi, Analyst) Okay. I just would have thought that say steel is probably going to make up more than 10% of those costs, of those raw material costs, and it sounds like those costs aren't fixed at this stage.

**Meg O'Neill:** It's probably worth highlighting the cost of raw steel actually represents a very modest portion of the total investment, and so with the rise and fall mechanisms that we have for things like steel and labour, the total risk is about 1% of the total development cost.

**Daniel Levy:** (Citi, Analyst) Okay, great. Thanks. That's helpful. That's all from me.

**Meg O'Neill:** Okay. Thanks, Daniel.

**Operator:** Thank you. Your next question comes from Saul Kavonic from Credit Suisse. Please go ahead.

**Saul Kavonic:** (Credit Suisse, Analyst) Thank you, Meg. Obviously, your presentation is quite heavy on ESG so I have a few questions on that. My first one would be the \$5 billion target for, I'll call it green investments this decade. Can you give us an indication of what the basis for that \$5 billion number is? Is that based on the size of the opportunity funnel you see ahead, is it based on the balance sheet capacity or something else?

**Meg O'Neill:** Good afternoon, Saul. Great question. One of the things we did when we were putting together that target was looked at a number of the parameters that you outlined. We of course took a look at our balance sheet and our spending capacity, and it is worth highlighting that the \$5 billion target is a target that we've set forward assuming the merger goes forward successfully. So, if for whatever reason the merger didn't happen we would need to revisit that, but again, we have full confidence that our shareholders will support the merger.

We took a look at the opportunities in the hopper and we've communicated to the market about four of those today. When you look at the rate at which demand is expected to scale up, we think the \$5 billion is a target that does represent the portfolio of opportunities that we've been bringing forward today. We think it is a credible target. That said, it will require us to get moving with a bit of pace, and if you look at the schedule that we outlined on slide 16 of the pack, we've got a couple of projects that will be moving into FEED next year and moving in to execute if everything goes according to plan next year. It is a project - target that does assume that we move forward with the pace that we have outlined as described in the pack.

**Saul Kavonic:** (Credit Suisse, Analyst) Great, thank you. I guess my second question on the same theme then is, can you just outline why Woodside is going to be able to deploy their cash into these green areas better than shareholders can, versus if you just gave it a dividend and shareholders can deploy it into green areas as they see fit? How do you plan to avoid repeating the market criticism that, for example, FMG has received due to its material FFI spend and the markets not ascribing any value to that and actually, in some cases, are detracting value from those other investment propositions?

**Meg O'Neill:** Yes, fascinating question, Saul. One of the things that we recognise is as an energy producer, our business is energy and we view the new energy opportunities we've talked about as, in many ways, a

natural extension of what we do today. Of course moving into a set of investments that will be lower carbon, particularly for our customers.

The answer actually ties a little bit back to what I said to Daniel. The sorts of opportunities that we're looking at actually are opportunities that are highly adjacent to what we do today and it's worth maybe pointing out some facts for the audience. LNG is gas that's cooled to minus 160 degrees C. Liquid hydrogen is minus 253 degrees C. So the sorts of opportunities that we're looking at and the sorts of energies that we're producing are very much like what we do today. Large scale, industrial processes, it requires unique scales in terms of liquefaction and process engineering capability and that's why we feel like these are the sorts of investments that actually are very well suited to a company like Woodside.

**Saul Kavonic:** (Credit Suisse, Analyst) Thanks Meg and last question on this, if I may? Just if we look at those opportunities which maybe taking FID in the next two or three years, could you just confirm that, or otherwise, that this hurdle that you presented of the 10% IRR but that's what you're envisaging the phase 1 economics to be based on the contract that you'll actually have in place? Thus those returns are not dependent on future expansions and future assumptions regarding much higher pricing beyond what you can actually contract in the early phases?

**Meg O'Neill:** Yes, all excellent questions. So maybe one way to think about the new energy business is, it's like the early days of LNG where both the customers and suppliers are going to have to co-invest. So as we think about some of these opportunities, particularly for ammonia into power gen or liquid hydrogen into either power uses or ground transportation, we would want to have the contractual certainty that if we built the plant that we would have high confidence that offtake would be available at a price that we would have sufficient confidence in.

So even for the early phases of these investments, we would be testing it against the target returns that we had outlined in our capital allocation framework.

**Saul Kavonic:** (Credit Suisse, Analyst) Great. Thank you very much, that's all from me.

**Meg O'Neill:** Thanks, Saul.

**Operator:** Thank you. Your next question comes from Mark Samter from MST. Please, go ahead.

**Mark Samter:** (MST, Analyst) Thank you. Hi, Meg. I've got three questions, if I can? The first one is a bit off script what we've been talking about today but just going to the Pluto price review, you said at the start of the year, you spoke of the adjustments you made after earnings, it was last year, but I think you've made clear that the result of that was under provisional pricing basis rather than a firmed agreement with your customer. It's now what, 20 months past the - when the price review started. Can you clarify where we're at with it? Are we heading to arbitration or are we close to resolution?

**Meg O'Neill:** Yes, great question, Mark. So we are very pleased that we have concluded the Pluto price review with our main offtakers.

**Mark Samter:** (MST, Analyst) Okay and so I guess reading from that, would there have been no adjustments to the adjustments made last year? We should conclude that that was done in line with the provisional pricing?

**Meg O'Neill:** Yes, so the specific outcomes will be communicated in 4Q results. From a materiality perspective, it wasn't something that would trigger a specific ASX.

**Mark Samter:** (MST, Analyst) Okay, thank you. Second question if I can, when we think about this \$5 billion in capex on new energy and where it heads to and you'll have to correct my maths, it's – yet more units to deal with, with hydrogen, but I think on an energy equivalent basis, the three projects you're talking about, the

hydrogen, an energy equivalent basis would get you to that 0.8 million tonnes of LNG. About 350,000 tonnes a year of hydrogen.

So that's a tenth of the Scarborough. I guess it would be very interesting to see where the numbers drop out at but let's say the numbers we have in the industry at the moment, those might cost you about \$1.5 billion to build. How do you manage the portfolio? The amount of capex you are going to have to spend, say if you want to replace a Scarborough in the portfolio and we're talking about \$15 billion being spent on projects that you're telling us are low IRR, the market on a gas project, we think, have very long lead times. So can you tell me - tell us how you're thinking about the more medium term quantum of capital required and how that plays into how you shape the business?

**Meg O'Neill:** So look, I think that's an excellent question, Mark and I think it is one of the factors we're wanting to highlight is - and we I think made some of these points when we talked about the Scarborough LNG and the impact that it would have. You know, the energy density of LNG really is tremendous and it's extraordinarily hard to compete with. Scarborough would power 10 cities the size of Perth for 30 years, which is quite phenomenal.

But that said, we recognise the world is changing and we need to be diversifying and we need to be offering our customers products that are both cost competitive and lower carbon. So our \$5 billion is intended to move us forward with building out that portfolio of products that we can offer those customers. But \$5 billion is a good step on the journey.

I'd probably reference you back to the chart where we looked at the analysis of the IEA scenarios. For new energy to really make an impact the rate of spend has to ramp up quite tremendously. I think this is page 7 in the deck and I think that just gives - hopefully gives everybody a feel for the size of the challenge that we're faced with and the size of the opportunity that we're trying to pursue.

**Mark Samter:** (MST, Analyst) Okay, thanks Meg and I guess that's called a natural segue into my last question but I personally was very surprised to see no change in your gearing target. I guess, to me, at the very, very start of the capex cycle that the business hasn't been through for a decade or so, really, I'm bullish oil prices but we're probably going into a decade of much more volatile commodity prices and starting to spend a lot more money on new energy and the BHP petroleum assets will have a reasonable amount of decline that you'll either have to invest or offset or just accept lower cash flow from them.

Can you talk through the logic of not dropping the gearing range and do you see any credible scenario where at the start of the capex cycle now we're heading into, you'd want to even test even towards the middle of that range?

**Meg O'Neill:** Yes, excellent question, Mark. So I think we communicated this when we announced the merger but post-merger, we expect the combination of the BHP portfolio and the Woodside portfolio, given the fact that BHP's business is coming across with no debt, that will reduce our gearing to about 12% [Clarification: indicative pro forma gearing for the combined entity at 30 June 2021; refer to slide 13 in the investor presentation "Woodside and BHP petroleum merger", 17 August 2021]. Look, when we look at the gearing range that we target, we don't look at it in isolation. We look at it in context with the balance sheet and our credit rating that we're pursuing.

So we are continuing to target investment grade credit rating. We think the combination of the gearing range that we've outlined, the investment grade credit rating and our policies around shareholder returns really land us in a sweet spot that enables us to fund not just the investment decisions we've taken but the \$5 billion that we've targeted and communicated to market today as well as ongoing - I'll call it more routine reinvestment in the business. So we've taken a real hard look at the numbers and we feel pretty well positioned to be able to offer it within those parameters.

**Mark Samter:** (MST, Analyst) Okay, thank you, Meg.

**Meg O'Neill:** Thanks, Mark.

**Operator:** Thank you. Your next question comes from Daniel Butcher from CLSA. Please, go ahead.

**Daniel Butcher:** (CLSA, Analyst) Hi, everyone. Hi, Meg. Just first question is just around your four hydrogen and solar projects. You've done a little bit about this already but just curious, what is your committed spend on those four projects today and if they all pass FID, what's your estimated committed spend for all of them?

**Meg O'Neill:** Yes, so that's a great question, Dan. We've not put any commitments out yet or what the committed spend would look like if we got to full scale. There's a few reasons for that. We're in fairly early days for a number of them and if you look at slide 16, that'll give you a bit of a flavour for it. So the projects that are more advanced, we are moving into the FEED phase. So we've got scoping level costs but as we progress each of those individual decisions, we will of course update the market on how much we anticipate spending for each of those individual projects.

I think maybe one way to think about it is the \$5 billion aligns with the graph that's shown on slide 16 and one of the things that has caused us to focus on the projects that we've focused on to date is the fact that there's quite a bit of optionality. So H2TAS for example, we've said we have scale up potential to 1.7 gigawatts. H2Perth can scale up to three gigawatts. H2 Oklahoma has a couple of different phases.

So it's probably too early to say deterministically what the phasing will be but we have great optionality with all three of these and Heliogen, we're in a phase of building a five megawatt pilot. If that's successful, I think the scale up potential for Heliogen is really tremendous.

**Daniel Butcher:** (CLSA, Analyst) Okay. Just curious if you can talk a little bit more through the moving parts on your 30% reduction in scope 1 and 2 by 2030? Firstly, what areas are actually reducing emissions in the outright and how much is actually just offsetting emissions through different projects? Also, obviously noting that your land based stuff, I think it's 2.5 million tonnes to 2040 which is only about 3% or 2.5% of your Scarborough emissions. So I'm sort of curious how you get to that 30% figure?

**Meg O'Neill:** Yes, excellent question. So I'll just reiterate, so our targets for emissions reduction are 15% net emissions by 2025, 30% net emissions by 2030. Look, we've taken a number of steps in our base business to ensure that we have that chronic focus on ensuring we are managing not just safety and reliability but also emissions intensity and I'm very proud of how the operations team has responded and the engineering organisation to continue day in, day out, to find ways to reduce the emissions intensity of our operating facilities.

We are looking at a couple of steps that can take more significant emissions out of the business and the project or the power project that we've talked about which could potentially supply 50 megawatts of solar energy to Pluto LNG, that would be a very significant step in taking Pluto LNG site emissions down but obviously with existing facilities, some of which are quite aged, we do need to rely on offsets and we have built out our offset potential.

So the 2.5 million tonnes that we quote there is associated with the existing and planned land-based projects. We also have been participating in the offset market and as we note on the slide, we're well on track to meet the 2030 net emissions reduction targets. They're a combination of own-generated as well as market-based offsets.

**Daniel Butcher:** (CLSA, Analyst) Okay, thank you. I might just ask one quick one on a couple of things about the merger. Firstly, Trion FID looks like it's going to be happening or could happen shortly after the merger completes. Have you sort of been able to do all the work in advance to verify BHP's work so you could go to FID quickly after the merger completes on Trion?

I guess the second part of that question is, would you consider a buyback to reduce your - the share churn when the merger completes, which I reckon it could be about \$8 billion? Thanks.

**Meg O'Neill:** Okay, those are two radically different questions, Dan. Let me start with...

**Daniel Butcher:** (CLSA, Analyst) Okay.

**Meg O'Neill:** Let me start with Trion. So I'm sure you're aware the project is now in the FEED stage. Through our due diligence, of course, we have developed our knowledge of the project but we will continue as we move towards completion to ensure we have a good understanding of the project. I do want to highlight, of course, that until we complete, ourselves and BHP Petroleum need operate as two independent businesses. So the mindset that we're taking at this stage is, we're treating it as a bit of arm's length as a kind of non-operated partner view of the project.

But you're absolutely right that that's a decision that we will need to make shortly after the merger completes and we're taking steps to ensure that we're well positioned to be able to make a decision.

You asked about buybacks. Let me speak to the secondary listing strategy because that is an important tool in managing the risk of flowback. So you'll see in the pack that we did commit to pursue secondary listings in both New York and London. We think these listings are very important to help mitigate the risk of flowback. We think each of those listings actually will mitigate about 6% to 7% of the flowback risk associated with BHP shareholders.

We continue to progress our analysis of demand for Woodside shares versus the shares that potentially BHP shareholders may either be unable to hold or not want to hold and our math, it does continue to suggest that demand for Woodside shares will outpace supply.

So at this point in time, we don't anticipate any sort of buyback around the timing of the merger but as I communicated in the shareholder return slide, that is a tool that we have in our toolkit and we will continue to look for opportunities to use that in conjunction with our existing dividend policy and special dividends if the price environment allows us to do that.

**Daniel Butcher:** (CLSA, Analyst) All right, thanks very much. I'll turn it over. Thank you.

**Operator:** Thank you. Your next question comes from Tom Allen from UBS. Please, go ahead.

**Tom Allen:** (UBS, Analyst) Good afternoon, Meg. A couple of questions from me. Just firstly, regarding Woodside's carbon offset strategy, there's obviously a range of different types of offsets that can be procured. Obviously of varying quality. Now, I understand one of Woodside's sources of offsets via Greening Australia is a source of high quality Australian offsets but going forward, will 100% of Woodside's offsets be Australian carbon credit units or will some offsets be the certified emissions reductions or similar that are procured offshore?

**Meg O'Neill:** Okay, well good afternoon, Tom. Excellent question. One of the things that we're really pleased with coming out of COP26, is the progress that's been made on article 6 which enables - or provides a framework for global offsets - a global offset markets or global carbon market.

We think that actually will provide the world with a lot of clarity on what quality offsets look like. Of course, you're absolutely right that there are differences in the market. Our strategy has very much been focused on ensuring that when we generate carbon offsets or secure them from the market, that they are high quality, reputable offsets, but we recognise that's not necessarily the case with all offsets in the market. So we think the progress on article 6 actually is going to be tremendously helpful in terms of making sure everybody's on the same level playing field.

Look, we used ACCUs where we need to but we want to make sure that we're looking at opportunities to build out an offset portfolio that is quality as well as cost competitive and the challenge we put to our carbon team is to keep the cost below \$20 a tonne.

**Tom Allen:** (UBS, Analyst) Okay, that's really helpful, Meg. Thanks for that. Regarding the CCS concept with the plant near Karratha. Obviously offshore sequestration is at a much higher cost base than onshore. At the IBD last year, Woodside shared some indicative data points on CCS cost but I didn't see those today. Can you share any indicative numbers on total life cycle costs in dollars a tonne that you think that concept might produce and what specifically is the industrial source of emissions that you're targeting?

**Meg O'Neill:** Thanks, Tom. Obviously there's a lot of interest in CCS. We absolutely think CCS is going to be part of the solution to climate change on a global scale and whilst I appreciate there's not a lot of experience in Australia, it's a technology that's been used for decades in other jurisdictions. So the US has a very long history of using CCS and there's projects offshore in Norway that have demonstrated the feasibility and proven out the technology.

So we absolutely think the technology is a viable technology but you're absolutely right that the cost to do it offshore is a bit higher than the cost to do it onshore and so one of the things that's really important to progress an offshore CCS project is scale. So we need to make sure that we've got sufficient emissions to be able to inject to bring down the units cost of abatement.

So at this point in time, it's probably a little bit early for us to provide any indicative cost per tonne but the strategy would be for us to be able to aggregate emissions from users on the Burrup and that includes the LNG plants that are there today, potentially the Train 2, the Perdaman LNG facility - sorry, the Perdaman urea facility - and we would also want to explore opportunities to bring CO2 in from other locations.

So early days in discussing with customers what that might look like but we absolutely need to be finding emissions of scale to bring down the unit cost.

**Tom Allen:** (UBS, Analyst) Okay, that's interesting. It sounds like there's a potential infra-play there on ACCUs as well, which is interesting. Now, last question from me is just, can you confirm a few details relating to slide 8? So Woodside's indicative free cash flow under various climate outcomes. So I recognise there's no numbers on the Y-axis of the charts and there's footnotes there that - indicating these are illustrative and not guidance but can you just confirm that that slide is suggesting that after spending \$5 billion on energy transition capex by 2030, under the 1.5 degree pathway to net zero by 2050, Woodside would expect to generate what looks to be very low or near no free cash flow?

**Meg O'Neill:** It would - Tom, so sharp eye. There is no label on the Y-axis for a reason because it is intended to be indicative. Look, I think it is important to appreciate that there is still a fair amount of uncertainty around which pathway the world is on.

Whilst everyone is aspiring to keep emissions down, you'll note on the previous slide, for example, slide 7, that there are two different Paris compliant scenarios listed there. So the sustainable development scenario as well as the net zero energy 2050, which is a pathway to net zero.

The point of showing the data on slide 8 is to help the market understand that we do resilience testing against all of these scenarios. With - in many ways, net zero emissions 2050 pathway is one that is quite conservative for our current business but obviously we're going to have signals as we progress down this journey that will allow us to take decisions that are appropriate as the world becomes - or as we gain clarity on which pathway we're on.

So if for example it seems like the world is moving towards that net zero emissions 2050 scenario, I think you will see that we would be pivoting to ramp up our investment in some of those new energy sources and the

portfolio that we discuss today is a portfolio that will offer those attributes of being resilience, diversified and profitable through a range of scenarios.

**Tom Allen:** (UBS, Analyst) Okay and then just following that comment on the resilience testing, I just want to triple check that under the new capital allocation framework that you mentioned today, can you just clarify that an \$80 a tonne carbon price is assumed in those new hurdle rates that you've disclosed?

**Meg O'Neill:** That's correct.

**Tom Allen:** (UBS, Analyst) That was an easy one. All right, that's all from me. Thank you very much, Meg.

**Meg O'Neill:** Thanks, Tom.

**Operator:** Thank you. Your next question comes from Gordon Ramsay from RBC. Please, go ahead.

**Gordon Ramsay:** (RBC, Analyst) Thank you very much. At the beginning of the presentation it was stated that Woodside has a history of low cost, higher margin operational excellence and since I've been writing research on the company, oil has historically generated the best returns, complemented by the steady LNG base in the company.

Today, the strategy has been presented that Woodside's going to transform into new energy products. Does this mean Woodside's project returns will now become lower over time as long-term growth outside of committed existing traditional hydrocarbon projects is now going to be driven by lower returning and longer dated new energy projects?

**Meg O'Neill:** Gordon, that's a great question. It's one of the things I think we're trying to outline with the capital allocation framework is that the three pillars that we anticipate investing in, oil, gas and new energy, offer different outcomes financially as well as to the portfolio. So when we think about being resilient through the energy transition, we look at the three pillars and our belief is that we need to be investing in all three pillars.

Each of them offer something different. As you've highlighted, oil offers high returns, faster payback but of course it declines quickly so you're on a bit of a treadmill to replenish that profitability. Gas of course is quite stable over time but we see new energy actually as offering some of the same attributes as gas without the upstream resource risk.

So we expect that when we develop these facilities, which in many ways are more like manufacturing facilities, the production year-on-year will be quite stable. The revenue year-on-year will be highly predictable and we don't have that dependency on a depleting resource. So we do see the three pillars as being important to our future, providing us with that diversification and that resilience as the world evolves and as the world adapts to climate change.

**Gordon Ramsay:** (RBC, Analyst) Okay and just to follow up on that, the next question then would be, does that change in strategy have any impact on the long-term dividend policy of the company, which you state is maintained at 50% to 80%. The policy payout ratio on the dividend, can that be maintained as the earnings stream in the company changes over time?

**Meg O'Neill:** Excellent question, Gordon. So we had a lot of discussion with our Board about this in our most recent Board meeting and they affirmed the dividend policy with the 50% payout ratio based on NPAT. Obviously with targeting a range of 50% to 80%, depending on market conditions and investment needs. Look, I probably can't prejudge if the Board will change their mind down the road but this has been our policy for a long period of time and it's been affirmed as recently as last week in our last Board meeting.

**Gordon Ramsay:** (RBC, Analyst) Okay, thanks, Meg.



**Meg O'Neill:** Thanks, Gordon.

**Operator:** Thank you. Your next question comes from Nik Burns from Jarden Australia. Please, go ahead.

**Nik Burns:** (Jarden Australia, Analyst) Yes, thanks. Hi, Meg and thanks for taking my questions today. I have a couple. The first one, you talk about your early mover advantage in new energy. I'm just wondering what advantage you hope to gain from being an early mover and how you frame this advantage against expectations that hydrogen technology in particular expected - the cost they're expected to fall materially over the next 10 to 15 years? Your investor briefing presentation last year showed an expected decline in hydrogen costs of 70% by 2030 versus 2020 level. So if you could address that, that'd be great, thank you.

**Meg O'Neill:** All right, excellent question, Nik and great memory about our previous presentations. Look, we see the early mover advantage really being in establishing the key relationships with the customers. So, the products that we're talking about today in the uses that we're contemplating are not widespread. The use of ammonia to co-fire in a coal power plant is a new technology. The use of hydrogen for ground transportation, again it's a relatively new technology. It exists. I actually had the opportunity to drive a hydrogen vehicle just last week and it was quite the experience.

But it's still a very emerging market and so we think the advantage of moving early in this space is strengthening those relationships with customers, building up that supply chain from the supplier end through the transportation phase into the customer end, and it's in the collaboration that we have. One of the things I'm really pleased with is the way we've been able to take our existing relationships with many of the customers who buy our product today and progress that conversation to how they might buy some of these new energy products. I think that's where the early mover advantage comes from.

**Nik Burns:** (Jarden Australia, Analyst) Thanks, great. That makes a lot of sense. I guess linking into that, and you talked about partnering with customers, what's the appropriate level of equity ownership in these projects for Woodside? Are you looking to take a 50% stake or will you go lower? How important is operatorship here or are you happy to cede control to the right partner?

**Meg O'Neill:** Excellent question, Nik, and it's a question that we're discussing with the new energy team on an almost daily basis. One of the things we want to do is ensure that we are able to bring the right partners in and so if we have a customer or a partner who is interested in an equity stake, we're obviously keen to progress that. Everything we've announced thus far, so the three hydrogen projects, Perth, Tasmania, and Oklahoma, we've taken those positions ourselves, recognising the value that we can have by being able to offer those customers and those business partners opportunities. Right now we're taking a more significant equity position but I would envision that over time we will bring partners into those investments and that will allow us again to continue to diversify where we spend our dollars.

**Nik Burns:** (Jarden Australia, Analyst) That's great. Thanks, Meg.

**Operator:** Thank you. Your next question comes from Mark Wiseman from Macquarie. Please go ahead.

**Mark Wiseman:** (Macquarie, Analyst) Hi, Meg. Thanks for the update today. I just wanted to ask on the exploration side of the business. Historically and in more normal times Woodside would have invested something in the order of \$200 million or so on exploration and I think BHP Petroleum more than that. You have listed that as one of the synergies of the transactions but I can't help but think with all the high quality 2C that you're acquiring from BHP, you know, there's probably about 10 years of reserve replacement within that 2C book that looks pretty realistic. Can you really just take the foot off the pedal on the traditional oil and gas exploration side and use a whole bunch of those cash flows to fund this \$5 billion?

**Meg O'Neill:** Yeah, thanks for the question Mark. If you think about Woodside's journey in exploration, you know, probably just five years ago we were spending closer to \$400 million a year and that has ramped down

considerably over time as we've refocused our exploration efforts to try to be oriented towards assets that have a rapid pathway to commercialisation.

So as we think about the merged company, that is an area we want to look at is to understand how do we best feed the growth pipeline of the merged company. But it would be premature to say much more specifically at this point in time, again recognising that the two companies need to continue to operate independently until we get to that completion milestone.

**Mark Wiseman:** (Macquarie, Analyst) Yeah okay, that's fair enough. I mean just thematically are you comfortable with reducing the level of traditional oil and gas exploration risk spend?

**Meg O'Neill:** Look maybe a different way of answering the question is to say that where we explore, it needs to be with a clear pathway to commercialisation. I think our industry has a bit of a track record of doing exploration where we have technical successes, but the commercialisation takes tremendous time. I mean Scarborough is probably a great example of that, it was discovered more than 40 years ago. So with the pace of the energy transition we can't afford to be investing to find fields that won't be developed for 40 years.

So we've absolutely got to have that sharp focus on pathway to commercialisation and that's the pivot that the Woodside exploration team has taken.

**Mark Wiseman:** (Macquarie, Analyst) Yeah okay, that's great. Just on the leverage of these green projects, I mean one of the great things about renewables is the ability to use leverage more easily than the traditional oil and gas business. Are those IRRs that you've quoted as greater than 10% - is that a levered IRR?

**Meg O'Neill:** No Mark, those are unlevered IRRs.

**Mark Wiseman:** (Macquarie, Analyst) Okay and would you expect to be able to lever up these ventures at the project level? Is that something you'd seek to do?

**Meg O'Neill:** Maybe. I think we're open to a range of partners and open to a range of financing approaches, but the key focus for the team has been we need to kind of get after these projects and we need to get to the point where we can really have those discussions in a meaningful way. I think there is structuring flexibility with these sorts of investments and we'll certainly keep the door open to those kinds of conversations but again, just recognising that the imperative to move with pace. We want to get the projects a little bit further along before we start having those discussion in any depth.

**Mark Wiseman:** (Macquarie, Analyst) Okay and just finally from me, I mean Woodside is going to become a fairly powerful investor in this new energy space, with the quantum of capex that you're investing and I mean that could create quite a bit of value with the entrepreneurs you'll be working with, the likes of Hyzen and Heliogen. Is Woodside able to take a stake in those stocks, is that something you'd consider doing?

**Meg O'Neill:** Yes, look, we're certainly receptive to that sort of opportunity. I think in the new energy space, it's going to be a bit of a different mindset and maybe if I give you the flip example. In the LNG space, we saw customers wanting to take equity positions historically. If you look at our Pluto partners, those are customers who wanted to be partners with us. As we think about some of the new energy opportunities, I think we will take a look and try to understand what's the best way for Woodside shareholders to create value and to deliver the returns that we've promised. But again, everything needs to be consistent with that capital allocation framework.

**Mark Wiseman:** (Macquarie, Analyst) Yes, okay. That makes sense. Thank you very much.

**Meg O'Neill:** Thanks Mark.

**Operator:** Thank you. There are no further questions at this time. I'll now hand back to Ms O'Neill for closing remarks.

**Meg O'Neill:** All right. Thanks again for your time today and for your questions. Woodside is at a pivotal moment in our history. We have announced the proposed merger with BHP's petroleum business targeting completion in the second quarter of next year. We have recently taken final investment decisions for Scarborough and Pluto Train 2 and the energy transition is gathering speed. We have an exciting period ahead of us and I look forward to providing another update at our 2021 annual results in February.

In the meantime, best wishes to all for the upcoming holidays and the new year.

## **End of Transcript**

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### **Contacts:**

#### **INVESTORS**

**Damien Gare**

W: +61 8 9348 4421

M: +61 417 111 697

E: investor@woodside.com.au

#### **MEDIA**

**Christine Forster**

M: +61 484 112 469

E: christine.forster@woodside.com.au

*This ASX announcement was approved and authorised for release by Woodside's Disclosure Committee.*