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ExxonMobil

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Phil Gresh: Good morning. I'm Phil Gresh, the North American Integrated Oils and Refining Analyst here at JP Morgan. Next up for today, we have ExxonMobil. We're thrilled to have Liam Mallon, who's the President of ExxonMobil Upstream Oil and Gas as of earlier this year.

Prior to this role, Liam was the President of ExxonMobil Development Company since January 2017. I know that Liam, you've been with Heritage Mobil since 1990, so almost 30 years at the company and 35 years in the industry.

We're looking forward to your presentation here today with the spotlight on Guyana for about 35 minutes, I believe, and then we're going to take some questions at the end. The audience can feel free to ask questions as well.

With that, turn it over to you. Thank you.

Liam Mallon: Good morning. Thank you, Phil. Good morning. Great, pleasure to be here. Thanks, Phil, for that kind introduction. Special thanks to all of you in the room and for everybody listening in. We appreciate the opportunity. We know that there is a significant level of interest in ExxonMobil's Upstream strategy.

I'm very excited to share my perspectives on our upstream business, which for me has the richest set of opportunities that I have seen in my 35-year career. That's the five-plus that Phil mentioned, that I started out with a couple of other companies.

It is the richest set I've seen and it's very, very exciting to be part of it. It's also an honor to be here. I've had the chance over my 35-year career to live and work all over the world and some of the best countries in the world, and in some of the toughest countries in the world.

Never had the chance to work in New York. I'm not quite sure which bucket to put that in.

Today, as Phil said, I'll spend a little time up front and in the closing with some general Upstream

remarks. Most of the discussion will be on Guyana.

First of all, I know all of you are very interested in Guyana, but also we're very close to bringing the first of those FPSOs to first oil, likely early next year. It's getting very close and I wanted to give you a sense for the real excitement that's building both of the country and beyond as we get towards that point.

I've been personally involved on this particular effort for the last five years, very intensely, so I know it well. It's a story, frankly, that for me I'm thrilled to be given the opportunity to tell you about today. I'm quite sure there will be interest in other areas such as the Permian.

We did do a spotlight on the Permian last year, and in addition, we have a detailed review on the Permian planned actually for Midland in October. I will cover the Permian, and of course, we can take questions, but it's not the intention of the spotlight for today.

With that, let's begin and let me just say a few words about our standard cautionary statement.

We can't predict the future, it's particularly difficult in our industry given the number of variables that we deal with. That's really why we don't try. We focus on building a business that's robust to a range of future outcomes. The future may look materially different than anything discussed today, depending on how these various variables affecting our industry evolve.

Additional details are in the material that was this morning posted publicly on the website. Let me start with just a general comment on our upstream investment strategy. I would like to just start by thinking through with you how we think about investments.

First and foremost, our investments are underpinned by an intent to grow upstream value. They're grounded in a view of long-term demand and supply fundamentals, that are shared annually with all of you in our energy outlook. We know we could create industry-leading value through unique competitive advantages applied to high-value opportunities that are resilient across the price cycle.

Let me start with the first of these components, and that's the fundamentals, and why the fundamentals strongly support our strategy. It all begins with people. Standards of living, economic activity that supports those increased standards of living. In the next two decades, we expect global population to grow by 30 percent. The middle class will double from what it is today.

There's a billion people in the world today without access to electricity. All of this, in our view, is expected to result in a 25 percent increase in demand for energy. In this scenario, all demand is expected to grow 0.7 percent per year, driven by commercial transportation and chemical feedstock. Gas demand is expected to grow by 1.3 percent per year to meet electricity and industrial demand.

This outlook for demand leads some to see our industry as relatively low growth. However, however, and a really fundamental point, this view discounts the impact of depletion. When you factor in depletion rates, the need for new oil grows at close to eight percent per year, and new gas at close to six percent per year.

If you look at this chart behind me on the left, you can see this interaction of supply, demand, and depletion. The dark blue area on the chart shows existing supplies that decline over time. The top of both the oil side and the gas side are our demand outlooks, and then the two degrees scenario is plotted in the diamond below, just so you're grounded in the chart.

The dark blue existing supplies declining over time. The light blue area on both the oil and the gas side shows the additional supplies needed to meet the expected demand.

Again, you could see regardless of whether our demand outlook is correct or if we're in this two-degree scenario demand outlook, the need for new supply and associated investments in our industry is significant. This suggests, actually, that perhaps the biggest risk facing our industry today is underinvestment.

The IEA estimates \$21 trillion of investments needed through 2040. For ExxonMobil, based on our relative production and our relative size, this would suggest we should be investing roughly \$33 billion per year. Based on the fundamentals, we believe there is a compelling case for industry investment, even more so for ExxonMobil when taken together with our competitive advantages, and our industry-leading portfolio.

Let me start by sharing the second component of our strategy, leveraging our competitive advantages. There are five of these shown on this page, I will cover them pretty quickly. I think you've seen them in some other forums. I'll bring some of these to life later as we talk in Guyana in particularly on the deep dive. You'll see more precisely how we see these competitive advantages playing out.

Starting with the first one, technology. Fundamental competitive advantage that we believe

results in not only industry-advantaged assets, but also processes, products, and applications. On top of that, dramatically improving existing applications and processes, and plays a significant role that you'll see clearly in what we're doing in opening up new play areas and new discoveries around the world.

A great example for Guyana is the whole subsurface capability, how we integrate our reservoir, geoscience, etc., etc., through this full wave-field inversion technology that's a processing technique for seismic, that really has been an exceptional way to look at multiple scenarios real time, and really get much more comfortable with what we're doing, the pace we can do it, and the confidence that we have in what we see in the subsurface.

Scale. Scale covers just about everything we do, but for us, being able to leverage our scale whether that's in terms of accelerating learnings, looking at improvements, managing risks, our financial capability, it allows us to stay committed through the cycles.

That's fundamentally important, particularly when we look at businesses like the Permian, etc., and capture structural advantages with our global portfolio-based approach. A key, key, key competitive advantage.

The third one is integration. Basically, this is all about optimizing and capturing benefits along the whole value chain, regardless of where the value chain starts and stops.

Maybe later, we'll talk about our new upstream reorganization, if we have time in the Q&A. You'll see where that is integrated well ahead to sales point, a very different approach than we've had before.

This whole concept of being integrated and being able to capture the benefits along the value chain, regardless of where they are or where they move to over time, is a significant competitive advantage that applies in all of our facilities in our organization, and throughout our skills and capabilities.

Functional excellence, the fourth competitive advantage. We were organized functionally for many years, so we have built a very deep functional capability throughout our company. We certainly don't intend to lose that in any way with the reorganization.

This concept of being able to bring deep expertise across disciplines quickly and effectively to the toughest issues we have around the world, including on large-scale complex resource

developments, is a key competitive advantage. We'll demonstrate where we see that most acutely in Guyana.

Lastly, our people. All of this is made possible by our people, our people with world-class capabilities, who've gained those capabilities through a broad set of challenging assignments and global experiences, and today are connected digitally through platforms to share and capture learnings from one place to another.

There are the five key ones. Each of them in their own right are significant, but when taken together, they provide unparalleled strength and have taken generations for us to establish.

Now that we've talked about our investment case, underpinned by the fundamentals, and we've talked about the unique competitive advantages that we believe ExxonMobil have to make sure those investments are successful, let me talk about the outstanding portfolio of opportunities to which we're applying that fundamental view and those five competitive advantages.

This is all aimed at growing value. Fundamentally, our strategy is about growing value, cash, making sure we're on the left side of the supply curve, and making sure everything we do is resilient across a series of prices.

Fundamentally, that's what it's about, and in my opinion, as I said at the very start, it's the best set of opportunities I have seen in my 35-year career.

Let me quickly hit the five, what we call growth areas, and there are many more than this, to be clear. I'll talk about some of those here in a minute, but these five contribute up to 50 percent of the earnings potential that was shared with you all back in the recent March Investor Day.

All of these are outstanding developments. Starting with the Permian, we are on track to deliver on the million barrels a day by 2024. We believe our innovative development plan is key to that, and we continue to see and achieve the milestones that we set out for ourselves.

In Mozambique, Area 4 potential is up to eight trains, 40 million tons, and the first two trains, that 15 you see, we said that we would start up by 2025. What I will say about Mozambique is it continues to be a challenging environment from a security perspective. You all saw that.

What I will also tell you is that we received our development plan here recently, frankly, in just over a year. A staggering achievement when you consider the complexity of getting that

development plan technically, commercially, and otherwise approved with quite a complex partnership and through the government.

Really good news from the perspective of the development plan approved. Some uncertainties with security and uncertainties, frankly, with the recent Anadarko announcement in terms of, just what does that really mean in terms of common facilities?

Remember, this area is a shared area where two facilities are being constructed jointly. We remain on track for the investment decision this year that we communicated externally, but we need to work through some of those uncertainties in the coming months.

PNG, a high-performing base. You've all seen, it continues to exceed expectations, 20 to 30 percent higher than the original design basis. You know we have plans to double the capacity in PNG by the mid-2020s.

Again, progress per the milestones. The message I want to leave you with continuously today is we are executing on the commitments that we said we would execute on.

This gas agreement, led by Total, was signed back here in early April, to enable the Papua feed to start. We're waiting on the P'nyang piece of that, which is the third train in the Papua development, and we're hoping to engage the new government here on that in the next few weeks.

Again, great progress getting the gas agreement in place. We have some uncertainty to deal with from the political dimension, but at the same time, the P'nyang resource which underpins the third train continues to get better, as does the other exploration activity that we have progressing in PNG.

I'm very excited about the potential in PNG, and I'm confident that we will deliver on the milestones that we've committed externally.

Brazil, high-quality acreage position, 2.3 million acres. Our plans are to start exploring that with wells next year, and then aggressively thereafter. Many of you know, in addition to the exploration potential, we are in partnership with Equinor, who are leading the development of the Carcarã field.

That is also on schedule, and I will tell you, we have been able to leverage a significant amount of

the learnings from Guyana and bring those into the Carcarã development to reduce cycle time, change the design of the FPSO with a very, very cooperative partner and government to do that.

Finally, on Guyana, we're going to spend a lot of time on that today, so I won't dwell on it on this slide. I did say that this was 50 percent. The other 50 percent of this earnings potential that you see over on the left side, frankly comes from many things.

First and foremost, I always want to remind myself and everybody else that we have a significant based business, excluding those growth opportunities, that generates tremendous value every single day.

To extract maximum value and maximum earnings in cash, it is really important that we make that the most efficient we can, the most reliable we can, and the safest we can. I feel good about where we're at on managing the base.

There are a whole list of other opportunities that are not on that Top Five, smaller projects, smaller developments that equally will contribute.

Finally, and as discussed extensively, I think, with all of you in the recent Investor Day, we have ramped up our upstream divestment plans. Executing on those divestment plans, which so far are exactly on the track we said we would be on, are important to delivering that earnings outlook.

The chart on the left is simply there for reference. As a reminder, it is not a target. It's an outcome of executing to what we said we would do. It was built using a 2017 Brent \$60 flat real basis, and obviously, will vary as prices vary.

As I said before, our plans are robust across the cycles. This is a view of the \$60 case and a view of what it will look like when we execute on those major growth opportunities I mentioned.

With that, let me start a little bit of a transition into Guyana and give you a deep dive. First thing I'd like to say, and the way I characterize Guyana, it really is a result of technology-driven exploration and, frankly, great integrated capabilities across multiple disciplines.

It's a remarkable and unprecedented success story. What I'd like to do is start with the summary of where we're at today, just so you have the full picture, then take you through a little bit of the history up to today's status, and provide some perspective on what we think lies ahead.

Summary of where we are today to get started. The little chart down on the bottom shows you the resource growth that we've seen in the Stabroek Block, staggering by any accounts. Just look at the numbers.

The current resource base is estimated at 5.5 billion barrels. That does not include some recent discoveries that we just made. We've had an 87 percent exploration success rate -- 87 percent. 13 of the 15 wells were discoveries.

For calibration, the average success rate in a frontier area is 10 percent. This was a frontier area. I'll show you why in a minute. Arguably, as it grows, it's no longer a frontier, but 10 percent versus 87 percent, phenomenal.

The other thing is it's not just one play. We've unlocked many different plays outside of the original Liza play, so it's very exciting.

The other very exciting thing is we're not just exploring. In parallel with exploring, we are developing. What was phenomenal is on the Liza discovery well -- one well -- we started the development. That is what you're going to see, and what enabled us to bring this thing on so fast.

Let me take a little bit of a step back in history, and I'll flip through these next set pretty quickly, just to give you a feel for, how did we get to where we are today? How do you get to an 87 percent success rate on this type of opportunity so quickly?

The reality is it wasn't quick. [laughs] It was quick in the ExxonMobil history, but in the oil and gas time frame, just for perspective, as you think about these type of plays, it's really all about, frankly, staying power, patience, and having the capacity to stay the course over a long time with hypotheses that you believe in.

Very few companies can stay the course with that belief and stay at it like we can, and not allowing what others couldn't see to deter us. We'll come on to that story a bit later on.

History has always said the best place to look for oil is where there is oil. Many of you have heard this. It is an absolute truism. The best place to look for oil is where there is oil.

We knew that the Guyana-Suriname basin had an active production system. Many of you probably don't know, but there is a heavy oil field producing today in Suriname that started back in the '60s.

Even back then, when people were out there drilling, that implied if you had a heavy oil field, the way the geological depositional environment works in that part of the world, it's likely that that was sourced from somewhere offshore.

This is back in the '60s, so keep that in your mind. There's a hypothesis out there even back in the '60s, and there is a heavy oil field after multiple years, by the way, of drilling before that point.

Many companies, including ours, looked to test this hypothesis between the '60s, leading up to the late '90s, staggering numbers. Before the Liza discovery, 61 wells were drilled in the basin with no discoveries. 61 wells with no discoveries, in total, including onshore.

They were drilling onshore and offshore. 320 wells were drilled in this basin. Some of these had oil shows. You'll be glad to know I didn't show all 320 on the map, to show you the dots. That is just a sampling.

That time frame says 2009, but that dot goes way back into the '70s and the '60s. In fact, Esso drilled a dry hole in 1978 in Suriname. Point being this is a sobering picture, back to my point about 10 percent risk and high-risk frontier plays.

People had spent a lot of money. It had taken decades. Hundreds of wells were drilled. Hypothesis was, "There's oil," but nobody had yet found exactly where it is at.

Undeterred, and particularly in the 1990s, we did pretty extensive rework on our regional studies, bringing together our very best geoscientist people with a unique understanding -- and this is really important -- of the tectonic history and the basin genetics in Guyana.

Our geoscientists didn't lose faith. This business is all about taking risks, being committed, and not losing faith. They persisted with this hypothesis, and they said two things.

The first, you heard me say it. This basin, based on the regional study, based on everything that was done, based on the shows, based on the heavy oil, should have world-class source rock potential.

The second thing they said is they believe the type of hydrocarbon traps are stratigraphic traps, and that based on our understanding of these type of depositional environments worldwide, those type of stratigraphic traps should exist in this basin.

The thing to be aware of is strat traps are inherently risky. They're hard to identify, and they're leaky, so it was still a very risky proposition even if you found one. Did the oil stay in it?

The hypothesis was accepted, the block was acquired. We then collected 2D and 3D out into the 2013 period, and I want to show you what we saw from this data. We generated this 3D seismic view back in the 2012, '13, '14 timeframe.

To simplify it, if you'd just look at the red circle, and then the bright green colors inside it. Inside that red circle, the green colors are potential reservoirs, and the black colors are potential seals.

What was really intriguing, without getting into a science discussion, was that the way these green colors stopped at this dashed white line, meaning that there was a transition going on. If you see above and below, this green just goes on.

This inferred to us that there was oil in those green colors, and it was transitioning down through an oil-water contact. It confirmed our hypothesis that we thought that this was an oil-bearing structure, and this was a strat trap.

I will say this exact same image -- exact same image -- is the image that Shell, our partner, walked away from. Shell left in 2014, thought this was too risky.

We, then at 100 percent, wanted to take on some partners to manage risk as well. We sent this exact image -- this exact image -- out to a data room and had over 20 people, the names you would expect, come look at this.

Only two companies put a proposal on the table -- only two, so it's back to this point of patience, persistence, unique understanding. 2 out of 22 saw something that looked like what we thought was there and thought it was worth taking the risk.

Of course, shortly thereafter, we welcomed Hess, and we welcomed CNOOC into the partnership.

We had a geological model, we had an idea of how it could work, but we still hadn't drilled it. We still had to take the risk, and even at that point, the geologic risk was 22 percent going in.

We drilled the well, we made a major discovery, and it gave us a taste of what this block could

hold. We had proven this hypothesis after all these years and found where we thought at least one part of this source rock was located.

We quickly moved after that and acquired this massive seismic survey, the biggest at the time, in industry. We did that, really, for two reasons.

First of all, we wanted to see how much running room there was way beyond that initial Liza discovery, and secondly, we wanted to make sure that the data we had was properly calibrated, and we could make rapid development decisions without too much risk. It was a really important operation.

I won't go through the details. Suffice to say, this was the most complex survey ever shot in the industry, by anybody, and the data that it's provided us with, frankly, been key to unlocking the rest of the Guyana story.

Now we had the challenge of a new survey, confirming, essentially, that we could expand, and there were more prospects beyond Liza. We also wanted to get going and make some money and get Liza on-stream as fast as we could.

The key challenge, as you looked at it, was balancing exploration and development at the same time, and how do you manage that risk? How do you manage your execution capacity? How do you manage your partnership? How do you manage your government?

How do you manage all those things, so that we could quickly move on and establish the full extent of this opportunity, but at the same time, get some oil on and create some value?

Again, remember, only companies with our scale -- back to that competitive advantage of scale and technology -- only companies like ExxonMobil could have done this at this scale and this pace.

I want to spend just a minute flipping through what's happened between 2016, which was the year after we discovered Liza, and now, from an exploration side. Then I want to come back -- this is a little awkward -- and talk about what's happened on a development side.

In '16, we discovered Liza deep. That was the first step out. You see it there on the chart. In '17, we discovered Payara, Snoek, and Turbot, and we had essentially developed a new core area around that Turbot area that you can see south and east of Liza in '17.

In '18, we further tested different plays, tested more outlying areas, and discovered Pacora, Longtail, Pluma, Ranger, and Hammerhead. These are all significant multi-hundred million type discoveries in their own right, all growing this whole concept. Again, not necessarily the same play, not necessarily the same characteristics of what we saw in Liza.

This year alone, you've seen the announcements. We discovered Haimara, Tilapia, and Yellowtail, and truly validated that area that you can see all those dots as for sure a fourth or fifth hub beyond the first three that we have talked about before.

We've had a wonderful run of success in a very short time, opening up opportunities in multiple plays and giving us huge optionality for future developments.

With this confidence in exploration success, which basically means we understood the subsurface very deeply, and our data was extremely well calibrated, it provided us the confidence to start pursuing developments in parallel.

Let me start by talking about the most mature of those developments, which is Liza Phase 1. A simple message on this slide, if you just glance at the slide.

We will bring on Liza Phase 1 in less than five years from discovery to first oil. It's a long time in our industry since that's been done. I won't say it's never been done, but it's a long, long time since anything like that has been achieved.

It is a staggering achievement. You can see that the industry average -- and this is today -- is nine years. Nine years between discovery and bringing it on-stream for a deepwater FPSO, floating production and storage-type development. We are half the industry average, and I'm very confident we will achieve that.

If I take it from when we made the investment decision, it's less than three years. We have never done that, and I'll talk about why here in a minute.

This is, from a value creation perspective, decreasing the cycle time between when you discover something and you bring it on is ultimately the key to value creation. This is a textbook example of that.

What do we believe are the things that have enabled this rapid pace of development?

Very quickly, first and foremost, the relationships with our partners and the relationship with the regulator and the government is key. Everybody has to be aligned to the same goal, and you have to do things that enable this pace in a way that satisfies standards of good oil field practice around the world.

That is a wonderful partnership. It's a partnership with the country of Guyana, and it's enabled us to move at a very, very rapid pace.

The second thing is our global development capability, and that covers the whole gambit from drilling through to our contracting strategy, through our supply chain integration. I will tell you because many of my peers have asked me about this, this contracting strategy.

The way that we sourced the boat, the way that we pre-invested in the hull, the way that we moved rapidly to industry-standard specs...The industry has talked about using standard specs for years, find it very hard to do it. We did it on this boat. It makes a big, big difference.

With that as a backdrop, let me briefly update you on the other two. This one, I've mentioned. It's almost ready to go. I'll show you a picture in closing just to give you the current state.

The second boat, Liza Phase 2, that was FID'd May of this year. It's a 220 KBD boat, so it's much bigger than the first one you see there, which is the 120.

Obviously, we're leveraging all the learnings. We're using the exact same set of contractors. This is the ultimate "once you've done it once, you replicate."

You just scale up, and you replicate. The cost advantages, the time advantages, the efficiency advantages are absolutely enormous, and that's what we're seeing. We're on schedule to start this up in the middle of 2022.

The third, what I would call project, in that same general play -- that's probably not precisely accurate, but in that same general play area. Payara is what we're calling it. It'll be the same size as Liza Phase 2.

You're seeing a range there. Early engineering is progressing, and our plans are to get that development plan into the government here in the coming months, with a view to make a final investment decision on that boat by the end of this year, and start it up in 2023.

Even more so than 1 to 2, 2 to 3 is basically exactly the same. We don't have to redo feed and redo many of the things that take time, so very exciting.

Just before I shift, the chart on the left simply reminds us of what we showed at the Investor Day in '18, which was the red diamonds and where we are today.

Simply, that shows the goal to get to 750 by 2025, the three boats that I've talked about that lead up to the diamond, and then I'm going to quickly talk about future developments here on the next slide.

Let me shift to those future developments. Basically, what we're seeing as we've moved from that Liza area, and you saw all the different successes we've had to the southeast, to the west, we continue to encounter significant hydrocarbons, significant resource. You saw the numbers, and we didn't even announce the last three.

We're not getting any surprises in terms of finding significant resource as we expand out beyond the Liza area. What is varying is some parameters that are normal, things like pressures, things like precise gas/oil ratios, things like the hydrocarbon characteristics.

All of those things require us to do very detailed concept selection planning to make sure that those next two projects are fully optimized for what we expect them to deliver. That work is ongoing.

We have not yet defined exactly on which fields those boats will be on, but it will likely be on a combination of the areas that I've highlighted on the chart, i.e., one, almost certainly in this Turbot, Longtail, Yellowtail area, and then one in either the Hammerhead area or an area that we are currently testing.

We remain confident in our goal to get to 750, and we remain confident to FID those next two major developments in the 2021-2022 time frame and start them up by 2025 as we discussed before.

Over on the right, the simple message is, "Despite all this, it's still early in the exploration phase." It's still early. We have more than 30 leads that we've identified that we have yet to drill.

We will have four rigs operating, with the fourth coming in by the end of this year. Two, roughly,

working on exploration, the other two working on development, recognizing that there are time clocks and other factors that need to be considered.

Very exciting, very early. Multiple projects, all on track, all delivering to our expectations.

Wrapping it up back on technology and people. I won't go through, in the spirit of time, all of the things that are on this slide. Suffice to say that in addition to that fundamental advantage on the subsurface and how we integrate that, some of the things we're doing digitally are phenomenal.

On one of the rigs -- you can see it there, the Noble Bob Douglas -- again, when you're in this business, we went slip-to-slip, which means basically drilling a section of the whole, completely automated, using digital technology here, late last year.

The first in the industry to do it has the potential to save lots of time, but very importantly, to take people out of harm's way from that rig floor, so a hugely important step.

We are advancing digital in all aspects of this development, all aspects. All of these boats are equipped with fiber optic connectivity, so they'll all be connected through a digital hub. They'll be digital twins, both in Georgetown and in Houston.

Our people will be able to work completely differently than they've worked before, and we expect to see a significant prize from reliability improvement as a result of all of that. I won't go through the other ones on there.

Our high-performance computing we've talked about in these audiences before, but it really is what enables us to rapidly create potential scenarios for development and be confident that we can rapidly assimilate new data and new scenarios.

Do scenario-based approaches to our development decisions, and quickly understand what could be no regrets. We have not found that point yet, but that's the technology that enables that.

The rest of this, I think, is pretty clear. It isn't just technology. Technology in and of itself is not the game. The game is, how do you apply that technology, and how do you integrate that technology with all the capabilities you've got? I think this example is the best example that we have today of where we are doing that to an extraordinary degree.

That is Guyana. Very exciting, real-time, and as it says here, "amongst the most valuable plays in

the industry."

What I'm doing here is I'm now bringing you back to the upstream. I started with the upstream. I'm bringing you back to the upstream.

We started with talking about the investment case, driven by the fundamentals. We then talked about the five unique competitive advantages that ExxonMobil are bringing to the best set of opportunities we've had since the ExxonMobil merger, to create industry-leading value, industry-leading returns, industry-leading cash flow.

This chart attempts to graphically show you that, and the simple message on this is, if you think about, a lot of people want to hear us talk about, "What is your break-even Brent costs to deliver a 10 percent return?"

In essence, that's what I'm showing you here. If you look at Guyana, that's about \$40 a barrel, and that's for the whole of Guyana. The individual projects within that are better. Liza 1 was lower than that, etc., etc.

That's when you take the whole development into account. Basically, it says \$40 is that cost of supply 10 that we all have a keen interest in talking about.

The other deepwater opportunities, you can see Brazil on the chart. This is a Woodmac chart over on the left. It's off Woodmac's FID tracker, which are those projects that will FID between essentially now and 2023. It gives you a sense for where the break-evens are.

You really should just look at the left axis, the x-axis. The bubble size is an indication of value, so it's a little confusing, but look at the x-axis, and it'll give you a sense. Just look at the size of the bubble as value, and what the break-even 10 is for those things.

You can see our Brazil Carcara also has a very low break-even 10, right at \$40 a barrel. Remember, that is only Carcara. That does not include any success for any of our exploration activity, which is all ahead of us. That's why the bubble is a little smaller than the Guyana bubble.

Just for completeness, I wanted to put on here the remainder of those large growth opportunities that you saw me talk about at the start. To calibrate with you my point that they're extremely resilient at low prices, and they're also resilient, by the way, as price stretches.

The Permian, again on average, 35. Brazil, I've talked about, 40. Then the two LNG projects, we tend put on an MBTU basis, but five dollars a barrel. They're roughly the same.

All of these -- all of these -- new opportunities firstly deliver extraordinary value, secondly, are very resilient, have a low cost of supply, compete on the left side of our portfolio of opportunities on just about all the metrics that we care to look at.

The one thing I would say before we close is we have been very deliberate about these choices, very, very deliberate. We pick them up at a great time. We took advantage of the low end of the cycle.

Darren likes to use the words "we leaned in when others were leaning out." Really, that lean in and commit, commit to the cycle is what enabled us to pick up these world-class opportunities that have these type of returns.

We are very well-positioned to execute on this. Fundamentally, we've got them. Now, it's about executing them, and we have the greatest execution company in the world. I feel very good recognizing the uncertainties that we talked about earlier, to execute on these plans.

In summary, the key messages from the upstream that I would like to leave you all with, firstly, long-term fundamentals underpin our growth plans. I think that's pretty clear.

Secondly, our unique competitive advantages enable long-term value creation.

Thirdly, upstream earnings growth potential is supported not only by those five outstanding new developments but also by the existing base.

Lastly, as we just talked about, our portfolio is attractive throughout the commodity price cycles.

It's a pleasure to be here with you all today. I will tell you, in the picture you can see, that's the Liza Destiny. That's that first boat I talked about. That was taken a few weeks ago. All that scaffolding and stuff that you can see is now off.

In fact, I leave for Singapore this Thursday, this Saturday. The first lady of Guyana and myself, amongst others, will launch and christen the Liza Destiny with the normal bottle. It should be a very, very special event.

Shortly thereafter, the boat will set sail. It takes about 60 days to get to Guyana. We'll have some work to do when it gets there in the field. It's got to pick up a lot of flowlines, do some in-field commissioning, that kind of stuff.

We are on track to start up in early '20. If everything goes perfectly, weather, blah, blah, blah. There's a chance it could be even a little earlier, but we are on track for early 2020.

Again, let me close by saying a very special thanks to JP Morgan and all of your teams, Phil, for this extraordinary event. For everyone that's in the room, for the many that are listening, we really appreciate this opportunity. I'd be happy to spend the next however long Phil wants on the Q&A. Thank you.

Phil: Thank you very much, Liam. We really appreciate this overview and very interesting deep dive on Guyana. We will take a few questions from the audience. I'll just kick it off with a couple myself first.

If it's possible to click back two slides...

Liam: I think it is.

Phil: Yeah, this slide. Just looking at the size of the bubble there for Guyana, and even Brazil, as you've highlighted, really, it hasn't been that long that you've been discovering resources in Guyana.

How should we think about where we are in this life cycle of discoveries? You've talked about future phases 4 and 5, etc., but how do you think about in three years from now what this resource base could look like?

What would be the size of that bubble three to five years from now? Ultimately, where do you want to get from a production plateau standpoint? Is it too early to even be talking about that, or just generally, how are you thinking about it today?

Liam: I think it is a little early, Phil, to talk about specifically what those numbers would be. I think the thing to remember is it's early.

I'm not sure if I'm talking into two mics here at the same time.

A good comparison might be if you go back, and you think about Angola and the success we had in Angola. Block 15, which is still producing healthily today, was about two and a half billion barrels. We're already at five and a half here without those new discoveries.

The potential is even greater. I think you know, there's several plays that we have not tested yet. We have 30 leads ahead of us. You can envisage a much brighter, even, story than we have today.

Honestly, right now we're focused on getting revenue going, which is very important for the country, delivering on what we said we'd do for the partnership, and continuing to optimize the expiration periods that we've got on the contracts.

Thus far, early, encouraging and the potential remains, I would say, greater than what we've even seen thus far.

Phil: The second question, just going back, you talked about the big five developments and you highlighted some potential risk areas for a few of them. Obviously, there's been some changing dynamics in a couple areas. In Mozambique, PNG, even in Guyana.

Maybe you could elaborate a bit more on what you're seeing on that front. Perhaps, if possible, maybe rank order where you see the greater risks or the lesser risks of things that have been happening recently.

Liam: I think the biggest risk is when we're dealing with, personal safety risks. The security risk in Mozambique, that's obviously something that, regardless of the opportunity, we won't put our people into an environment that we can't keep them safe.

The evolution of what appears to be a very difficult security problem in a very, very localized area, but it happens to be close to our facility that you've all seen publicized. I would say, Phil...It's not to say it's not manageable. It is manageable. That's our job. We're working very closely with the government to manage that.

That's a risk that there's not a workaround unless we can address it.

The other risks, I would say, are risks we've dealt with in many countries around the world over many, many years. None of them are particularly unique. I think the key thing to think about is developing the right partnerships with the country.

For Guyana, I really don't think about it as necessarily what's the risk with party A or party B. We really do approach it as a partnership with Guyana. I think if you have that mindset...first of all, your stakeholders are broad enough that it's not any one particular individual or any one particular party.

Fundamentally, what you're doing is for the benefit of the country. I think thinking about it as a partnership with the country is really the key, and lining up that value proposition.

Once you do that, then we find that dealing with the normal things that come up, the normal challenges about different things, whether its contract awards, or people's opinions, or the procurement processes, or development plan, approval pace, or all those things that we manage, are much easier to manage.

That's generally how I would answer it. Fundamentally, we believe we can execute on the plans we communicated. There will be bumps along the way, and we will deal with those bumps. The only one of significance in terms of we have to resolve it simply because there's no other option, is the security issue in Mozambique.

Phil: Sure. That makes sense. Another area I wanted to touch on, I guess from a risk perspective, would be around capital spending. Obviously, the upstream business, ExxonMobil, raised the capital spending budget at last year's analysts day, for new activity.

There are some other areas that you've highlighted even recently, Vaca Muerta, some additional new activity that you're progressing. We had dinner last night with Andy, and we were also talking a bit about contract availability, things like that, especially in the LNG side.

I'm curious. If you take all of these pieces of activity-based acceleration or inflation risk, and then maybe labor inflation, and other factors that could drive a higher spending budget, how comfortable are you from an upstream side around the budgets?

Liam: Again, I think it's a milestone-driven process, first and foremost, Phil. Sometimes things change, and we have to adjust those milestones. There might be some near-term variability, but over the long-term, we're very confident in those budgets, X things like new acquisitions and stuff like that.

I think our whole approach to capital discipline, it's not really target-driven, as we've talked about.

It's driven by the best opportunities, first and foremost, and are they accretive to our portfolio, and do they increase the value of the portfolio?

Once we've answered that question, it's, are they competitive against what others are doing, against our alternatives, and is that the best use of our capital?

First and foremost, for our company, the first use of our capital is investing in accretive opportunities. We will continue to look at all accretive opportunities, not by geography, not by play type, but by value.

Once we've done that, as you know, we'll focus on the dividend, then we'll focus on the balance sheet, and then lastly, if there's money left, we'll focus on share redistributions. It really is a discussion around not so much...

Obviously, we are trying to manage the long-term value creation with the near-term necessities of the business. That causes us to set CapEx targets and to try and manage those CapEx targets.

The other piece of it, that Andy mentioned and is very valid, is to many degrees, it's set by capacity as well. How much work can you do? Whether it's the industry contractors -- and what we've seen is a pretty dramatic consolidation of those over the last several years, particularly in the LNG business.

The numbers, I think, went from 11 or 12 major LNG contractors 10 years ago to 6 today, and they have lots of work. Lots of work in the Gulf, lots of work in other parts of the world.

I would tell you, as much as anything, what limits our ability to do things is actually the capacity that's available in the contracting industry and internally. We don't let a number limit the opportunity space that's available to us if it's the right thing to do.

Phil: I'm going to ask one more, and then I'll see if the audience has any questions.

I did want to address a comment you made about the reorganization of the business that happened not too long ago and give you an opportunity to maybe elaborate on the objective of that and what you're seeing in terms of early days of the returns of that reorganization.

Liam: Yep, good question, Phil. Thank you.

On the reorganization, many of you know that we reorganized here effective first of April. This was the first major reorganization since the ExxonMobil merger.

We were designed along, in the upstream, a very functional structure. We had an exploration company, a development company, a production company.

I would say, in simple terms, ownership and accountability for the opportunity moved through the life cycle. There was a lot of internal handoffs.

There was very deep functional capability, but a lot of handoffs, which in today's world of speed, data, and the dynamic nature of the portfolio, perhaps wasn't giving us exactly the speed, efficiency, and agility right across the value chain we wanted.

But it brought great strengths, and it was very good at the time for what we wanted it to do. We fundamentally reorganized around three things. First and foremost, to help us execute this great portfolio, secondly, around this whole speed, agility, simplicity, and then thirdly, to really bring a deep focus to three things.

One, this whole concept of being the best dynamic portfolio manager, and for all the reasons we've talked about, whether it's bringing new things in, whether it's the divestment story, whether it's managing the base.

Today, we're in a world of abundance, it appears, and we are seeing more opportunity than we've seen in a long time. We have to be extremely focused, extremely good, and it has to be a core competence around dynamic portfolio management.

That whole upstream business development company, that's their job, working with the rest of the business. The oil and gas company that I run was organized into a five global value chains, Deep Water, Unconventional, Conventional, Heavy Oil, and LNG.

Back to what I said, it really leveraging scale and integration to a huge degree.

Again, we were not integrated, and I think being fully integrated end-to-end does two things. First of all, it changes the capability and competency of your people, because business acumen becomes a very, very important component of how they think and what they do, in addition to their normal technical and commercial skills.

Secondly, it allows you to see opportunities the whole way through that value chain, and to the extent, you were leaving money on the table because you weren't participating, it gives you a much better view of that, and a choice as to whether you want to or not. That's really important, and the profit and loss of the entire upstream is in that business.

Then the final piece, and back to competitive advantages is we want to maintain functional excellence.

Our previous organization was structured around functional excellence. This puts the responsibility and accountability for functional excellence in the third company, which called our Integrated Solutions company.

The role of the Integrated Solutions Company is to ensure that we have the right capabilities, that they're deployed to the right problems, and that our processes and systems are constantly being updated to be the best in the industry. That's what that company does.

All those three come together to create more value than they could individually. It's two months in, two and a half, what I'm seeing is very exciting. All of the elements of why we did it are very evident. There's lots going on on the portfolio side.

The ability for me to see my LNG business cradle to grave, not just the upstream piece, the upstream, the shipping, the trading, the marketing, the financing, and have someone accountable for all of that is very different than we had before, so I'm pretty excited about it.

Phil: We have maybe five minutes if you have a question or two.

Audience Member: You mentioned some uncertainty when talking about Papua New Guinea, would you elaborate?

Phil: The question was about uncertainty around Papua New Guinea.

Liam: The only uncertainty, and nothing to suggest there's any issue, is we had the gas agreement approved here on Papua. We're moving forward, we're in the process of trying to get the P'nyang piece.

That's important to landing on the final concept as to the number of trains, and just with the government change, the pace at which we've been able to get the P'nyang agreement signed has

been impacted by that change. That's all.

We had planned to go into feed here shortly, and it may take us a little longer to get that agreement. It's really just a question of the new players and getting them in place, and getting them up to speed.

Phil: We have no other questions in the audience. I'll ask one more, it's going to be a shorter-term one, but Neil told me it was OK.

In the interest of increased disclosure around shorter-term dynamics, is this a public opportunity to talk about how things are looking and trends in the second quarter? Is there anything you'd be able to share with us about the upstream side of the business based on what you're seeing right now?

Liam: I think a few things I would say. First and foremost, I would Phil, take us back to the fundamentals. We plan on a long-term basis. You saw all those charts that we talked about today. Our plans over the long term are very healthy. They generate strong returns, and they generate strong returns over those price cycles.

I think it's really important when we talk quarter to quarter that we put it in the context of it is a long-term business, and the growth plans that we've talked about are multi-year, multi-year growth plans.

That said, we also recognize that we are in a cyclical commodity business, and that requires us to have a long-term view just by its definition. But, as we've said before, and we've seen these cycles, when you're in a cyclical commodity business, with that long-term you still need to be cognizant of the business cycle in the short term.

That's how I would characterize it. As an example of that, if we look at market conditions and what we're seeing in the first half of the year, there are several factors that could impact the second quarter.

These are not, I would say, things that have to routinely occur, but I think it's worth mentioning them in this call. During our first quarter earnings call, we discussed that we expected lower gas demand in Europe, that is normal in the second quarter, as the weather gets warmer.

This is not new, and we've seen that every year for the last four years, and we've seen a

consistent pattern of around 200 KDB type impact. I don't know what the precise number will be this year, but as you would expect with seasonal demand, it impacts prices.

We also see seasonal demand in the US to different degrees, also impacting gas prices with lower relative demand in the second quarter relative to the first quarter. As a consequence of that, Europe and US prices are creating a downward pressure on our gas realizations. The exact magnitude of that, it's early in the quarter to tell, but I think you would see that.

Additionally, I think when people think about our LNG business, most of it being liquid-linked, and you would expect to see pretty much that moving in line with liquids, but most of our LNG contracts are lagging contracts. They're pricing out three, four, five months ago.

It's just a timing effect, but you might not see the full effect of what you saw happening on the Brent price directly on the LNG sales. That's something that quarter to quarter normalizes, but in a particular quarter, you're seeing prices that were agreed back, probably in the fourth quarter of '18.

The last thing to mention, and again it's normal I would say, but we're in maintenance season. You should expect without getting into specific assets. You should expect that a number of our major assets have been going under plan maintenance during the second quarter and into the third quarter. That will have an impact on volumes.

Phil: Great. Just to clarify, these are all upstream comments?

Liam: Yes, these are all upstream comments. Thank you.

Phil: I think we'll stop it there if there're no other questions. Thank you again so much for taking the time today. Great presentation on deep diving Guyana. We really appreciate you being here.

Liam: Thank you.

Phil: Thank you.

[applause]



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