
LEADERSHIP, OVERSIGHT & PROGRESS ON CLIMATE AT JPMORGAN CHASE

EVENT CALL TRANSCRIPT

April 19, 2022

OVERVIEW

ESG matters are an important consideration in how we do business at JPMorgan Chase. We strive to run a healthy and vibrant company and bring together the best of our business to help address significant economic and societal challenges and advance a more sustainable and inclusive economy. Building off the foundation of our Business Principles, we are leveraging our expertise, capital, data and resources to advance inclusive growth and support the transition to a low-carbon economy.

During Earth Week, we released our [2021 ESG Report](#) and we held a **special virtual event on climate**. Informed by questions investors have asked us, our discussion focused on how the Firm thinks about climate and leads strategy across our businesses and clients to support the transition to a low-carbon economy and setting a path toward net-zero.

Aaron Bertinetti, Head of ESG for Investor Relations, moderated a panel discussion featuring **Dr. Sarah Kapnick**, Senior Climate Scientist & Sustainability Strategist, **Rama Variankaval**, Global Head of Center for Carbon Transition and **Chuka Umunna**, Head of EMEA ESG. There were also remarks from JPMorgan Chase's Chairman and CEO, **Jamie Dimon**, and Chief Risk Officer, **Ashley Bacon**.

DISCUSSION TOPICS

- Our approach to climate change, risk management, and setting emission reduction targets
 - Considerations for energy security, a just transition, climate scenarios, and fossil fuel financing
 - Oversight, governance, and management of our ESG strategy and execution
 - Our work with clients to support the transition as a leader in green financing
 - Our progress in meeting the goals of the NZBA and our timeline for providing future updates
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CORPORATE PARTICIPANTS

Speakers

Jamie Dimon

Chairman & Chief Executive Officer, JPMorgan Chase & Co.

Ashley Bacon

Chief Risk Officer

Panel participants

Dr. Sarah Kapnick

Senior Climate Scientist & Sustainability Strategist

Chuka Umunna

Head of EMEA ESG

Rama Variankaval

Global Head of Center for Carbon Transition

Moderator

Aaron Bertinetti

Head of ESG for Investor Relations

TRANSCRIPT

Jamie Dimon

Chairman & Chief Executive Officer, JPMorgan Chase & Co.

Good afternoon, and thank you for joining us today. As the world grapples with war in Ukraine, mounting inflation, climate change and ongoing pandemic, the past year has shown that companies like ours have an important role to play in serving our customers, clients and communities. At J.P. Morgan Chase, we take pride in running a healthy and vibrant company. The long-term success of our business is also inextricably linked to taking tangible actions that support a greener, more equitable and more inclusive society. Climate change is one of the most critical challenges of our time and the world needs a new marshal plan to address it responsibly.

We have to pick up the pace in transitioning to a lower carbon economy. The challenge though is a far bigger issue than any one institution like ours can solve on its own. Disruptions to our global energy system are highlighting an immediate need to provide energy securely, reliably and affordably. At the same time, we've got to advance long term clean energy solutions and strategies to reduce our carbon footprint. We can and must do both. We are keeping our foot on the pedal when it comes to supporting the transition, helping finance investments in clean technologies and expediting the use of lower carbon fuels.

In 2021, we facilitated more than \$100 billion for green activities like renewable energy, green buildings and vehicle electrification. We doubled our green investment banking activity and we are the largest underwriter of green and ESG labelled bonds. These efforts help put us well on our way to our target of \$1 trillion for green initiatives over 10 years. There's still no getting around the fact that due to the lack of alternatives, the world continues to rely on traditional fuels. That's why to help the world get on a path to net zero, we are taking pragmatic steps to reduce emissions. We were the first large U.S. bank to set 2030 carbon intensity targets for the oil and gas, electric power and automotive manufacturing sectors and to publish a practical, science-based methodology to help guide our decision making. Our targets are designed to drive the tangible change needed to reduce emissions in the real economy including the deployment of practical solutions that exist today such as methane and flaring mitigation.

Our Center for Carbon Transition in our Corporate Investment Bank is working to centralize access to financing, advisory and research solutions to help our clients make the low carbon transition and thrive. We believe that the solution is not as simple as walking away from fossil fuels. Instead, we are engaging with our clients to help accelerate their transitions. We recognize that this is a far bigger challenge than one institution, even one industry, can solve on its own. Governments have to play a leadership role through thoughtful policies that spur long term and large-scale capital deployment for low carbon solutions that create jobs and benefit the economy.

Finally, our Board of Directors plays a central role in the governance of ESG, both as a whole and across specific committees. For example, the Public Responsibility Committee provides oversight of diverse positions and practices on matters such as community, investment, fair lending, consumer practices and sustainability. The Risk Committee considers climate risk, and the Compensation Management Development Committee oversees the firm's culture including reviewing employee diversity, equity and inclusion programs.

In the past year, in addition to the work of these committees, all directors participate in full board discussions regarding the firm's approach to COVID-19, racial equity, and climate change. From the top down, we are committed to making sustainability a priority, making and following through on commitments that are good for the planet, good for the economy, and good for business. We recognize the value of engaging with our stakeholders including you, our investors, to inform our approach. The firm will continue to work with you all and lead with a tireless focus on doing the right thing, even when it's not easy or expedient. Thank you.

Aaron Bertinetti

Head of ESG for Investor Relations

Good afternoon. Thank you for joining us today. My name is Aaron Bertinetti, I'm Head of ESG for Investor Relations at J.P. Morgan and it's my pleasure to host today's event on behalf of our investors joining today from around the world. Firstly, I'd like to thank our Chairman and CEO Jamie Dimon for his opening remarks there which make clear how seriously we take climate change, how we're leveraging our capital and expertise to support transition to a lower carbon economy that's on a path to new zero, and the central role of our board in providing oversight on ESG matters that affect not only our investors but our customers, clients and communities.

This morning we released our 2021 ESG Report which covers the extensive work and progress our firm has made in advancing sustainable development. This includes financing and facilitating \$285 billion towards our \$2.5 trillion sustainable development commitment through 2030, as well as how we address varied issues such as cybersecurity, human capital, diversity, equity and inclusion, amongst many others.

This morning, whilst we have continued to be heavily engaged with investors on climate change issues, having met formally with investors in 2021 representing almost half of our outstanding common stock, the feedback that you communicate with investors relations and our senior management is valuable, and that's been an important consideration in developing our strategy for climate action.

Aaron Bertinetti

Head of ESG for Investor Relations

As Head of ESG Investor Relations, I meet with many of you to not only answer your questions, but disseminate your views internally. The questions I will ask today are informed by you, our investors. They will cover our approach, targets, policies, our work with clients, and what we are focused on going forward.

With that, it is my pleasure to invite to you our panel, many of whom are senior climate leaders that you may not have met before. Firstly, Ramaswamy Variankaval, Rama as we know him internally, runs our Corporate Finance Advisory Practice and our Center for Carbon Transition which we call the CCT. The CCT has dual mandates. Firstly, the CCT has led the work and the development of our Carbon Compass methodology which details our Paris-Aligned Financing and now is actively working on a methodology to deliver on our net zero banking alliance commitment.

The second part of the CCT's mandate is to work with clients, helping them across the Corporate Investment Bank, Commercial Banking and Private Banking to offer strategic advice, capital markets advice and other help on their low carbon transition as well so to new companies who are developing solutions across various sectors to decarbonize.

Chuka Umunna is the Managing Director and Head of EMEA ESG for J.P. Morgan. In this role, he leads the firm's ESG Solutions Investment Banking team which advises our corporate clients across all major industry verticals on how to improve their sustainability credentials as well as optimize value and mitigate risk through effective ESG integration. He also works with these clients on how to access ESG focused capital across equity, debt and private markets. He coordinates our strategy across Europe, the Middle East and Africa, overseeing the franchise's efforts to integrate ESG into his operations and business activities in the region.

And lastly, Dr. Sarah Kapnick who is a Managing Director and Senior Climate Scientist and Sustainability Strategist for Asset & Wealth Management. She supports AWM's Sustainability and Climate Action efforts and serves as an advisor on new business and investment opportunities in risk. Dr. Kapnick serves as a subject matter expert on climate science, producing thought leadership on climate topics to educate her clients and firm leadership, and she also serves on firmwide committees relating to climate and advises on broader climate strategy, drawing particularly from her previous experience working at the National Oceanic & Atmospheric Administration as a government scientist.

With that, I would like to welcome our panel, and I'd like to start off by asking a question somewhat related to the fact that I'm sitting here as a former and escaped leader of a global proxy advisor and I've just walked into a bank with an esteemed panel that comprises a climate scientist, an investment banker and a former member of Parliament. Perhaps starting with you, Sarah, and then Rama and Chuka, could you each explain a little bit about why you decided to come to J.P. Morgan as the place to address climate change?

Dr. Sarah Kapnick

Senior Climate Scientist & Sustainability Strategist

Thank you, Aaron, for that introduction. Personally, I reached a point in my scientific research career where I wanted to put science to action to transform investment. I had 15 years' experience in science, but started as an investment banking analyst and really felt through this entire career that eventually climate would need to be integrated into business practices. I came to J.P. Morgan to serve as a subject matter expert to guide our clients and work with leaders across the firm on climate issues. Leadership here is really talking about climate differently and really focused on building in-house expertise and integrating climate decision-making across all lines of business. Additionally, the culture here is collaborative and welcoming. We can recruit diverse talent, which to address the complexities of climate change and its impacts, is truly critical to building multidimensional solutions that are rooted in science, but also in the societies in which we operate globally.

Aaron Bertinetti

Head of ESG for Investor Relations

Rama, I'm kind of curious how long -- you've been with the firm for quite some time.

Rama Variankaval

Global Head of Center for Carbon Transition

That's right. Almost 20 years. My decision to join J.P. Morgan, hopefully that's in the statute of limitation on that has passed. I don't have rights to that. I think more interesting what might be why I took on this role as Head of CCT, the Center for Carbon Transition. In the 13 or 16 years prior to that, that I've been out of the CFA Group, Corporate Finance Advisory Group, my day job was to work with the corporate clients globally on matters of corporate finance and structured finance relevance, if you will. And what I was observing, the team was observing over the last 3 to 5 years was a lot of business decisions, business strategy was being informed by if not driven by ESG considerations, across lines and different sectors. It was pretty clear that ESG or sustainability or decarbonization was actually driving business strategy and capital

Rama Variankaval

Global Head of Center for Carbon Transition

formation, so it was a natural kind of point for us to work with our clients on the topic. And then as we were spending a whole lot of time, J.P. Morgan that is, figuring out our own strategy, how we incorporate sustainability more formally in our client service business, it was pretty natural for me to take that role on and extend the range of dialogue I was having with the clients to include the carbon sustainability and decarbonization a bit more frequently.

Chuka Umunna

Head of EMEA ESG

I think for me, and fantastic to be joining the team today, always good to be doing these things with Rama and Sarah. And Aaron, thanks for moderating us. But I served in the UK Parliament for a decade. And for half that time, I was Shadow Secretary of State for Business. And in that role in particular, I witnessed how I suppose it's the forces of globalization, in part fueled by digitization and the tech revolution, were gaining in impact and taking hold. I really witnessed just how emasculated frankly nation states had become in the face of all these challenges that we need to deal with as a society. And that's I think largely due to the fact that the nature of so many of the big problems in climate is arguably the biggest of them all, no known borders. And therefore, actually to deal with it, we have to adopt a supranational approach. And certainly, here at J.P. Morgan, we are one of the biggest private sector supranational institutions in the world. If you want to tackle these issues, climate included, then this is just a fantastic team to be a part of. Because of our scale, we can actually do that.

Let's just be absolutely frank. A lot of the corporate institutions around the world that have been fingered as being problematic when it comes to the environment, and I don't necessarily accept the critique and this kind of black and white view that gets set up of saints and sinners around this climate debate, but we have very strong relationships with so many of these companies. We understand them, we know their people, we know how their business work. And so, as you are seeking to reconfigure business models, and we're really at the heart of that debate. As well as being an investment banker, I've been lawyer, I've been a politician, I've been a consultant. And when you're working on a transaction, and I have in different ways, the bankers often, certainly from a strategic point of view, have the greatest impacts some would say. This was just a natural place to come if you wanted to actually make a difference.

Aaron Bertinetti

Head of ESG for Investor Relations

That's great. Thank you very much. I think that's kind of a natural jumping off point given we do actually have a climate scientist on the panel. About talking about our approach, from your perspective, Sarah, how you think we are addressing climate change here at J.P. Morgan.

Dr. Sarah Kapnick

Senior Climate Scientist & Sustainability Strategist

At the highest level, the firm is placing climate science into the decision-making process. The world around us is changing, both physically with manifestations of climate change, but also with the policy, with social pressures, with investors providing us feedback and ever-changing guidelines on the transition to a lower carbon world. We're operating with that and working with that to bring in all of these things into the decision-making process.

Aaron Bertinetti

Head of ESG for Investor Relations

I think, Rama, given your work particularly with the CCT, and taking what Sarah just said there, how do we kind of look at that from -- we often talk about pillars internally around our approach at J.P. Morgan.

Rama Variankaval

Global Head of Center for Carbon Transition

Look, again, as a guy who has been around for maybe the longest, at least on this panel at J.P. Morgan, nothing we are doing is really that different than how we tackle every issue at J.P. Morgan. Everything we do is fact-based and data-driven. This is just an extension of how J.P. Morgan does business in my view. There is an established layer of climate science on which we are building everything. We want to serve our clients, solve their problems in the most responsible way, but always being driven by data, facts, science. That is kind of the foundational element here at J.P. Morgan.

What do we have to offer? We have people. We have a balance sheet. We have a position as a financial intermediary that is able to connect capital seekers and capital providers. And we have the ability to advocate for what we think is appropriate. I think we are doing all of that.

If you look at people, world class team in our corporate functions focused on sustainability, focused on risk management. Within Asset Management we have folks like Sarah Kapnick who are bringing subject matter expertise. We have investing professionals who are experts in investing in and around transition and green businesses. Within the CIB, which is where I sit and Chuka sits, we are trying to develop and really pioneer decarbonization and energy transition and sustainability as part of the DNA of how we engage with all our clients.

Rama Variankaval

Global Head of Center for Carbon Transition

In the Commercial Bank, we have developed a green economy team and what we are essentially doing, and have had fantastic progress, is map out the world of all the industry verticals that are going to help drive the green economy of the future. And we want to be their bank of choice. Some of these industry verticals don't even exist today, but we know they will need to exist in world that is on its path to net zero. I think we are deploying all our resources to a problem that is clearly a very urgent one and we think it's massive. It's a massive problem for us to address, it's also massive opportunity for us to address.

Aaron Bertinetti

Head of ESG for Investor Relations

And staying with you for a moment, Rama, I think the announcement the CCT, the Center for Carbon Transition, I think it was in 2020, certainly seemed to be welcomed both by clients and investors, particularly given the acknowledgement of the complexity that I think you've all talked about there in opening remarks. Would you be able to explain a little bit more about what the Center actually does and how we manage the wide variety of expectations we have across all kinds of stakeholders that we have and the feedback they give us in terms of our strategy?

Rama Variankaval

Global Head of Center for Carbon Transition

Yeah, no, look, absolutely. With two years of practice how to explain CCT, still working on it. But we formally announced it in the fall of 2020 in conjunction with our Paris commitment. The way I think about it is, we have two mandates that are very closely linked. One is to design and implement J.P. Morgan's sustainability related commitments as it pertains to our client activities. That's one side of the mandate. Related other side of the mandate is to engage with our clients to help them with their own sustainability journey. Because at the end of the day, J.P. Morgan's credentials when it comes to our carbon footprint or sustainability or ESG, however you think about it, is largely a reflection of our clients' credentials. Our operational footprint at the end of the day is a fairly small piece of the puzzle. It's who are the clients that we are partnering with? What are the transactions that we are supporting? And how that reflects back on J.P. Morgan is what we are trying to first of all measure, monitor and then start kind of bending the curve, if you will, so that we do our piece to be Paris-aligned with net zero. That's kind of big picture what the CCT does.

A couple kind of, if you dig a layer deeper, when it comes to designing and implementing our strategy, our decarbonization strategy, the Paris announcement was made in fall of 2020. In May of 2021, we published our methodologies called the Carbon Compass on how we propose to measure the carbon footprint of our clients in oil and gas, power and auto sector. We have since operationalized that, so as Sarah said at the very beginning, it's now part of that carbon foot printing, it's now part of decision-making for all transactions with clients in these sectors. And now we are part of NZBA, but more about that. That's all the design and implementation of J.P. Morgan commitments.

On the client side, I think of our mandate as -- I think of our function as broken down again in 2 pieces. One is working with J.P. Morgan clients, many of whom, not all, but many of whom have some form of climate or ESG liability the way I think about it. Just like we do. Just like J.P. Morgan does, right? And most of them, pretty much all of them, have recognized that and are working to minimize or eliminate that by transitioning their business model, by future-proofing the business model. We want to provide whatever financial services we can to that for clients who are transitioning.

And then the other bucket is these newer companies, some are already clients, others may want to be clients of J.P. Morgan, where part of the solution, this business model, is gleaned by definition. And we are going to be providing the solutions toward decarbonizing. We want to be the bank that they trust. Think EV companies or battery storage or clean hybrid carbon catch or whatnot. We want to engage with all of those clients as well and offer the J.P. Morgan services. That's kind of how I think about CCT.

Aaron Bertinetti

Head of ESG for Investor Relations

Super helpful. I think obviously Rama is both global but sort of has that perspective of North American climates that we will hear more about. But Chuka, I'm kind of interested given your role outside of North America, particularly with European and those emerging market clients, whether there's a difference in our approach in those markets versus what we're doing in North America.

Chuka Umunna

Head of EMEA ESG

I think this is something that is sometimes underappreciated is the global nature of us as a bank. Because obviously we are a major U.S.-headquartered, global financial institution. And the approach has been to give our clients the best advice on the street wherever they may be or we may be giving that advice. With all the benefits of being global and being a global bank brings, yet well anchored in the local context. And just to kind of give you a bit of a sense of what, how we operate and how local we are here in Europe, we are a major global and a major local bank in Europe. In Germany, for example, we are one of the 5 biggest banks so to speak. We're one of the 20 biggest banking institutions supervised by the ECB. Whilst we have to make sure we're giving the best advice, it has got to be locally appropriate, and you have to take account of what clients are dealing with, both from a legislative, regulatory and stakeholder viewpoint.

Chuka Umunna

Head of EMEA ESG

To just give an example, in Europe, there is no equivalent of the Fair Access Campaign to finance that you see being waved in Republican health states in the U.S. at the moment where lawmakers are demanding that fossil fuel companies shouldn't be discriminated against as it were by the banking sector in terms of the provision of finance. Now, you just don't see that happening in Europe. In fact, the trend is very much from the opposite direction. Europe has wanted to, if you like, frame itself as leading the way in climate disclosure regulations. We have an EU taxonomy for example. We have a sustainable finance disclosure regulation. The European Council made up of senior figures from all different governments in the EU is about to start looking at adopting a common border adjustment mechanism which will be the centerpiece of the rest of French President Emmanuel Macron's presidency in Europe, if he wins the election in the next couple of weeks.

The context that we're dealing with here is really quite different and so there are different rules and regulations. Never mind at the EU level, but all the domestic governments have their own regulations as well which is very different from what we see in North America and equally what you see in APAC as well. Now, that doesn't just apply in terms of lawmakers and regulators. Investors also apply different standards to our clients according to where they may be providing their business or operating their business. There's no doubt about it, for example, in emerging market countries, I'm head of EMEA ESG which covers the Middle East and Africa as well as Europe, the demands that are made of clients by investors in the emerging market parts of EMEA are different from those say in Western Europe. And while that's not always spelled out in the annual investment stewardship policy that will be put out by the asset manager, informally just in terms of how they practically would apply the principles that they've set out, it does vary according to where our clients are operating. This is just to give you a sense of what we're dealing with. The consistent theme here is excellent advice, the best on the street, ensuring what's best for the business, good for the economy and good for the environment. But how that translates into different contexts, different regions where we're operating, is obviously going to vary partly as much, if not more, to be frank.

Aaron Bertinetti

Head of ESG for Investor Relations

Sure. Fantastic. I think it's interesting because you're talking very much from the Investment Bank side of the world and Commercial Banking. Then we've got Sarah here from the Asset Management side. I'm kind of curious to ask Sarah, what are the similarities and the differences between the investor perspective and the operating company such as a bank like ours? And whether you're seeing differences in how companies at both exist as well as how you actually operate as an investment manager.

Dr. Sarah Kapnick

Senior Climate Scientist & Sustainability Strategist

Fundamentally, as investment manager we have a fiduciary duty to our clients. We can't give them one emissions pathway for their investments unless they ask for it. But we can and must give them all the materials to make informed decisions on this. Our clients want to know where the opportunities are and also be informed about the changing climate landscape. Some of them want to know even the fundamentals of climate science. When I go and talk to them, some of them have never met a climate scientist and so they want to understand the science of it, just the baseline understanding of that to even have discussions going out from there and all things related to climate and how they can invest or think about it and think about the evolving world.

But overall, they all want to understand, starting to understand these nonfinancial impacts related to climate. Either relating to values for their stakeholders that they may have or also material nonfinancial impacts of their investments. Around the transition, that's really starting to emerge around understanding carbon dioxide or carbon dioxide equivalent which would be methane or other greenhouse gases, those emissions. Because they're starting to recognize, as Chuka was touching on, differences in regulations for specific countries and regions around the world potentially are going to impact future profitability of operations and how companies are going to start operating around emissions or around transition. They want to start getting that reporting and information and advice to be able to think about how that is going to unfold in their investment portfolio into the future.

And there's also sometimes specific goals of being aligned. Specific emissions reductions pathways in their portfolios. We're investing in specific solutions to provide emissions reductions in the future. As an example, some of our clients have signed onto Net Zero Asset Owner Alliance. They want help realizing those commitments and they're trying to figure out what that means. Additionally, to address these emerging needs and requests that we're getting from clients, we've made some strategic investments in acquisitions. We acquired Campbell Global in 2021, a sustainable forestry company. It allows us to create strategies around forestry and carbon and build out expertise in the space. And in the Private Bank, we acquired OpenInvest. We did that to provide reporting and frameworks for values-based investments to align with our client investment goals which are also evolving around this.

Through these and additional strategic investments that we have made to date, we will work to advance our offerings and capabilities. The space is constantly evolving and we're trying to respond to that and that of our client demands.

Aaron Bertinetti

Head of ESG for Investor Relations

Fantastic. I think that's a fantastic overview and I know given my experience of talking to investors on an almost daily basis that they love to talk about targets and policies. I'm going to pick on Rama first to talk a little bit about both in terms of our sector-based emissions targets and also the sustainable development commitment that we've made. One of the questions we often get is, how do we actually determine that these targets are challenging enough? And then following from that, how do we actually determine that we are effectively implementing them, how do we govern tracking and reporting on those particular targets?

Rama Variankaval

Global Head of Center for Carbon Transition

Sure. They are challenging enough. I can tell you I'm losing all my hair trying to implement them. I'll talk about both, the sector-based targets and the sustainable development, the financing target. On the sector-based, as I said, we have targets on power, autos and oil and gas. Each of these have 2030 to immediate targets. Not just a 2050 target. And each of these targets was developed based on a baseline scenario, a scenario that was credibly Paris aligned. The needle we always wanted to thread when we started the process was to set targets that were ambitious, but also, they were not impossible to achieve. It needed to be something that we can go and have a constructive conversation with our clients about. How we pick the targets, how we, J.P. Morgan can help our clients achieve the targets. We work with an external environmental consultant to develop the targets. Again, the targets, I can go through the details, are very credibly aligned with a benchmark scenario on the Paris aligned component.

On the other side, the \$2.5 trillion sustainable development target is definitely more art than science. Of that \$2.5 trillion by the way, \$1 trillion is for what we call green target. The rest is kind of focused on SDGs, primarily the development portion of it which is Development Finance. But even within the \$1 trillion green, a few things we wanted to make sure that we achieved. One was we did not want to have any definitional confusion. Chuka talked about the EU taxonomy. There are a number of these taxonomies that are floating around which are trying to categorize things as green or not green. None are comprehensive, none are perfect as we speak. We didn't want to get into or fall into a trap of trying to defend certain activities as green or not green, so we wanted to try and limit our target to just the most obviously green activities. That was the governing principle.

The second was, we know that if you go by third party estimates, you need at least \$1 trillion a year globally to achieve the goal of net zero. Over the next decade, that's at least a \$10 trillion need that the market has. Not all of that, some of it will come from public funding, but a lot of it could come in the markets where J.P. Morgan operates, so we use that as a guiding post. What portion of that global need can we facilitate or intermediate. That was a big guiding force.

We obviously were a pioneer in the green bond, the development of the green bond markets, so we looked at kind of how that had grown and that gave us some indications on where the debt markets might go. Not just the green bonds, but the extensions of that. When we applied our definition to the last few years of finance activity broadly and then backed into what seems to qualify as green. I think it was as I said, more art than science, triangulated into something we felt was definitely ambitious and still be a stretch goal. But we felt if the world was to be on track to really be net zero, we should be able to achieve our objective. Happens last year was actually a phenomenal year when it comes to capital markets activity. Aaron, as you quoted in your opening, we did almost \$300 billion under that \$2.5 billion definition and about \$106 billion I think it was under the green definition of \$1 trillion. We thought that we would actually slowly ramp up as opposed to hit more than a tenth of the target in year one.

We feel pretty good about those targets. There is a whole lot of governance around both of those and a number of people within, again, my team, but within risk, within the corporate sustainability group, all of us have say on what's included, what are the methodologies, making sure that we are, again, applying the absolutely most rigorous standards across everything we do. And then there are a number of I think other more formal governance bodies, etc., as well, so that we feel very, very good about what the word gets put out.

Having said that, as I said, data is not perfect in any of these fields. There are lots and lots of gaps in data availability, and so while we are trying to track and make progress, we are also behind the scenes working to make sure that the data gaps get filled. Working with vendors across the board, working with companies, with trade associations, etc., to impress upon each of these folks that this where the world is going. These are the types of disclosures that you might want to consider because this is what every financial partner is going to require. Let alone invest other kind of stakeholders. A number of things kind of moving here, but we feel I think overall very, very good about the ambition level of our target and also the progress we are making towards it.

Aaron Bertinetti

Head of ESG for Investor Relations

Rama, I might actually -- I was going to go to Sarah, but I might just quickly follow-up on 2 questions with you there. I mean there's a couple of other issues here in terms of questions that we get. The first one is why we chose emissions intensity versus absolute. And the second one is, in terms of scenarios that we obviously came out very early, used the IEA SDS scenario for our target setting purposes. Since COP26, we've obviously seen the IEA's NZE scenario. How do we look at those things? Why did we choose emissions intensity versus absolute? What impact does the NZBA, us joining that, have? And how are we looking at the NZE and other scenarios going forward?

Rama Variankaval

Global Head of Center for Carbon Transition

Look, I think we get these questions a lot from a variety of stakeholders. The emissions intensity versus absolute emissions, again, what was the guiding principle? Guiding principle was we wanted to pick a metric that was decision useful and actually would influence outcomes. We did not want to have unintended consequences of not doing this with certain clients simply because they are large. There are many, many clients in our portfolio who are large in terms of scale, so from an absolute emissions perspective, they might look as not great if you will. But at the end of the day, they are the ones who have both the commitment and the capability to transition their business. Because they have -- they've been around for a long time, they have banking partners, capital providers who know how to bank and provide financing to these companies. And they have the intention to transition. To us, it's our responsibility to work with these large clients as they are transitioning. And the intensity metric is useful in that particular cohort for example.

But if you zoom out, and this is where as a banker I'd love to have a PowerPoint. Visual aids are important. But I'll try to talk about this without one. If you look at the emissions intensity of all our clients in the oil and gas sector, they are all sitting right on top of each other. There is very, very little dispersion in the intensity among different clients within oil and gas. If you look at absolute emissions, there is a very high level of dispersion among our clients. There are some clients who have very high absolute emissions. Some very low. Why is that relevant? If we had picked absolute emissions and we picked a target of reducing absolute emissions by X%, what would X be? What that would translate into is for J.P. Morgan to say, you know what, there is a handful of clients who are a big drag on our overall absolute emissions. Let's reduce or cut down business with this handful of clients. Problem solved. That would have been the easy answer in many ways to our problem.

But emissions intensity, as I said, because everyone is sitting right on top of each other, there is no subset of clients that we can say we are going to walk away from and hit our target. There just isn't. There isn't enough dispersion for that to be a realistic solution. What is the solution for us to actually engage with all of our clients and have them improve their business model, have them improve their emissions intensity, so that our portfolio of emissions intensity improves. This in many ways is a much harder path that we have picked.

Another point I'll make, if you look at absolute emissions, you break it down into pieces, what does it have? It has population growth matters. Per capita income growth matters. Emissions intensity matters. And energy efficiency matters. These are the 4 inputs to absolute emissions. Population is growing. This is what it is at global level. Per capita income is growing globally. It's what it is. Energy efficiency is increasing, that's helping. And the last piece of the puzzle is emissions intensity or carbon intensity which is what we are targeting. These are not particularly divorced issues. One is related to the other. But now that we are part of NZBA, we are coming to disclosing absolute emissions regardless. Although our targets are based on intensity, we will disclose absolute emissions, using some established framework so that we are on a path to do that too.

And then your second part on can the scenarios be picked SDS? Again, I could give you maybe the simple answer which is NZE did not exist when we published our methodology because we did it before. But we were very clear when we published our methodology that at all points in time, we want to use the best available information. The best possible understanding of where climate change is going. Best available data. Best thinking, etc. That has not changed. What we want is to always evaluate where we are on targets already set or targets that we are contemplating setting and use the best possible information available. But it does need to be practical. It needs to be something that leads us to develop scenarios at the sectorial level, that maps the J.P. Morgan portfolio of clients, and is decision useful. We are not wedded to any particular scenario. There are many. You mentioned SDS NZ. There are NGFS and others that Sarah can write a book on a number of scenarios out there, right? There are many. And we look at all of them and we want to use the best available one that solves, again, the problem that we are trying to solve.

Aaron Bertinetti

Head of ESG for Investor Relations

Fantastic. Thank you very much, Rama. I thought you were on a roll there, so I wanted to make sure we got through all those really key questions that I get asked a lot from our investor base. Sarah, I thought maybe just related to that, obviously, we see even amongst our own investors, we've sort of got some shareholders very much looking at divestment from certain sectors like oil and gas. And then conversely, we're seeing particularly larger investors kind of certainly this year been pushing a call against cycled brown spinning with investors kind of divesting only for that investment to those companies to turn up in private equity or less reputable, low standard climate lenders. I'm kind of curious from your perspective how you look at that from both an asset management and climate strategy, this idea around whether you divest or stay engaged for impact?

Dr. Sarah Kapnick

Senior Climate Scientist & Sustainability Strategist

I've been watching kind of some of the things you alluded to. There are some small firms that are just specializing just in green products and services. But then they are not actually engaging with the entire economy and the entire challenges of the transition that we're seeing today. From the perspective of our Asset and Wealth Management clients that we work with, some choose, some choose to divest. And that is their choice with their dollars. But also, other subsets of our clients are choosing to use their capital to engage with their investments. It's exactly what you were just saying, because they are worried about who will take control of those investments if they don't have the control. With that, they're starting to push towards a transition and accelerating the development of a green economy through their engagement.

And for my perspective overall, ultimately, we need sector and climate expertise combined with capital markets to make this transition. And we need to do this at a global scale. This can't happen in one sector or one region of the world. It has to be everywhere. And it has to be that way

Dr. Sarah Kapnick

Senior Climate Scientist & Sustainability Strategist

if we ever want to get to this net zero world. Every ton of carbon dioxide equivalent leads to additional climate change. The transition will only be complete when everyone transitions, and so we need this whole approach. Otherwise, we will never get there.

Aaron Bertinetti

Head of ESG for Investor Relations

I think that kind of linked into this idea about how we deal with -- it's often a question I get from investors. What do you do with those difficult sectors? And how responsive are we to clients in addressing the transition, and how are bankers being trained? How they incorporate the targets. What tools do they actually have in terms of is it simply firing clients? Is it escalating? Is it covenants? I'll throw this one to Chuka in terms of what do we do from feet on the ground, working with our clients where they are in these fossil fuel sectors and trying to work with them to transition?

Chuka Umunna

Head of EMEA ESG

I'll break down some of this and talk about how this relates to our investment banking practice, our investment banking franchise. Because obviously, as has been said, I think pointed out, obviously we've got a number of lines of business. I'll just talk about how this plays out practically amongst our investment bankers within the corporate investment banking line of business. And I'd just pick perhaps 3 or 4 things. The first thing is, all our investment bankers, be they product-focused around equity or debt capital markets or M&A, or with an industry focus amongst our industry coverage teams. They always see a variety of trading, not only in how they personally, through their conduct, are expected to manage ESG issues in terms of our culture and what we do as a bank. But they are also expected to be able to recognize sustainability and ESG issues as they impact on clients and be able to provide at least a level of advice on ESG and sustainability issues to clients before engaging the relevant specialist ESG teams. Whether it's ESG Solutions, The Center for Carbon Transition, or the DFI, Developmental Finance Institution. It's very much been made clear by our investment banking leaders in all the regions that we're operating around the world that this is not like a ghetto issue if you like. This is something that everybody is expected to know about and they do receive training on. So that's the first thing.

The second thing is, whenever you start the process of pushing forward with a transaction, there are various different risk management processes that are followed. And I won't go through all of them, but essentially, all our investment bankers are trained in our risk management processes and one in particular to refer transactions for review by our Global Environmental and Social Risk Management team, which in shorthand, attorneys refer to as GSRM. And that sits in our corporate function. That team reviews the environmental or social risks posed to the bank by the work that we do for clients in relation to certain specified sectors and subsectors. And also, in certain countries. They know, all our investment bankers will know when that process, when that team needs to be engaged.

And then the third point is that if the transaction falls into one of the focus sectors as part of the Carbon Compass framework, automotive, electrical and power, oil and gas. And as part of this framework, as assessment of our clients' initiatives and decarbonization plans is factored into the decision making when considering new transactions for in-scope clients in the sectors I just mentioned for both lending and now capital markets transactions. That allows us to build a view of the client's decarbonization trajectory and then that's factored into our decision making.

And then you also asked, aside obviously from practicality in terms of how our investment bankers work, what do we see with our clients? I think it's fair to say that all clients, not just those in the Carbon Compass sector, but they are all raising this issue with us, wanting to understand of course when they're speaking to us as their bankers, what are investor expectations here if I'm seeking to raise capital be it equity or debt capital? What will be asked? What kind of scrutiny will we be under? And this is happening regardless of geography and regardless of sector I'd say actually. It's happening across the board.

The starting point for a lot of clients is really to understand the disclosures that they are expected to make to this, and they may not be already complying with global standards and frameworks. And you'll see in our ESG Report for example the global standards and frameworks that we ourselves as a bank are complying with. GRI, SASB, etc. And then how they set targets. Are they science-based, all that type of thing? And then consideration of a roadmap for delivery.

And one final thing, I'm conscious I've already droned on a bit too long, there have been, some have said when looking at ESG investing or ESG banking, that all of this is some grand PR exercise. I think it's fair to say, and I know that Sarah and Rama will be able to say the same because they have talked about it before when we've been talking to people about this, we can all point to specific instances where we've given advice to clients on what is expected of them or what they need to do and whether they will actually change their business strategy. They're not just changing the story, they're actually changing what they're doing based on what we see happening in financial markets and what investors are expecting of them. And by the way, it's not just ESG and sustainable fund investments. It is mainstream funds as well that are making these demands of issuers too. I think that's often lost in the debate around this.

Aaron Bertinetti

Head of ESG for Investor Relations

I think that's a great point, Chuka. And I think, Rama, we talk internally about -- we look at all this analysis of somewhere between \$1 trillion and \$5 trillion needed in financing per year to achieve net zero and our place in that, particularly as one of the largest green financiers as well as a leader particularly in green labeled and ESG labeled bonds. How do we actually define that as a firm in terms of business and the growth opportunity and what client demand looks like and how we actually operationalize that through the firm?

Rama Variankaval

Global Head of Center for Carbon Transition

Look, I think it is, as I said, it is an opportunity of a lifetime in many ways. The cost of this transition is going to be such a capital-intensive transition, and because a number of companies in sectors need a fundamental change in business strategy. It plays to the strength of a company like ours. We are good at a few things. We are good at giving strategic advice. We have a pretty large balance sheet. And we are good at connecting capital seekers and capital providers. These are the basic functions we do and this transition is going to require all of that.

The way we think about it internally, there are like 4 pillars of how we map the world or map the opportunity. There is the client opportunity, or the client viewpoint, which is as I said at the very beginning, lots of clients who are not where they need to be and need to transition. We can help with the transition. But there are lots of other companies who are part of the solution, still require banking services, so we can help them. That's the client view.

There is a product view. We have seen a whole host of ESG-linked products already hit the market and something like a green bond is kind of more mature, but there is a variety of other products. I wouldn't be surprised if every product that we sell, there is an ESG-linked variation of that in the future. Whether it's a payments product or a hedging product or whatnot. So there is a product view. We will spend a lot of time doing product R&D there.

Then there is a capital viewpoint, how we allocate capital. Our capital. We have to change that and that's an opportunity there as well. Where we are slowly but surely going, not just J.P. Morgan, but I think the market as a whole, is to put a price on carbon at the end of the day. And then we need to, the market as a whole, needs to figure out how to allocate capital with this additional factor baked in. How does J.P. Morgan position ourselves as the world is transitioning and putting a price on carbon? It's something we are spending a lot of time on. That might mean that we have to reallocate our capital. It doesn't obviously mean we shrink our capital, but we have to reallocate it. But that's going to provide opportunities if done the right way.

And the last piece of the pillar is the branding, the storytelling. I think it's in J.P. Morgan's DNA to do before we talk about things and that's just how we are and that's I think the right approach generally speaking. But in this area, we are very cognizant that we do want to make sure that we highlight all the good things we are doing concurrent to when we are doing them rather than wait for the world to realize we have done lots of good things. We have experts like Sarah and Chuka with very different backgrounds who bring in fantastic differentiated expertise for our benefit but for the benefit of our clients more than that. We want to highlight all of that. Those are kind of the 4 pillars how we think about the opportunity. I know this, Chuka and I talk about this all the time, this is the opportunity of a lifetime for us as a firm.

Aaron Bertinetti

Head of ESG for Investor Relations

Fantastic. I'm conscious of time, so we've probably only got time maybe for one or two answers and then I'll have to wrap. I think, Sarah, I did want to make sure that we very briefly kind of touched on what has and hasn't changed since the Russian invasion of Ukraine. And given the wide highlights recently of energy shocks and demand exceeding supply in fossil fuels, do you have a fairly short response to that?

Dr. Sarah Kapnick

Senior Climate Scientist & Sustainability Strategist

Yeah. As noted in Jamie's letter, long term climate goals remain the same to make a transition to a lower carbon economy and eventually a net zero economy. It really highlights that this transition is difficult, it's not going to happen overnight, and there is going to be volatility. However, it's another stressor, it pushes for more rapid transition, particularly in Europe. Which is now really hyper focused on getting off its reliance of Russian fossil fuels and allocating capital towards emissions reductions through clean energy and energy efficiency projects. I think that there will be a lot of lessons about how to make that transition and speed it up coming out of this.

Aaron Bertinetti

Head of ESG for Investor Relations

Right. And I think broader to that kind of connecting that idea with Rama's idea, I think, Chuka, you talked at the start about sort of the things that need to be done more broadly when we're talking beyond just single companies like J.P. Morgan. Obviously, we talked about carbon pricing. But what are some of the other things that we're thinking about in order to help this transition and what we can do as a bank?

Chuka Umunna

Head of EMEA ESG

Sure. There's so much to talk about, I'll try to be brief. Look, we've got a role to play and you can see through the ESG Report, do read it, that we are determined to play our part on that. But obviously, public policy makers, governments, both national, regional, supranational, have all got a role to play too. And there are 3 things and actually, Jamie has talked about these, both in his letter to our shareholders this year and last year. But there are 3 things I'll just point out that we've made the case for.

Rama was talking about carbon pricing I suppose internally. I mean we are clear that you need to have a price on carbon and that's a public policy maker issue and we're not going to get the allocation of capital needed unless we have something like that. That's one thing we've been very clear about.

Secondly, technology is key. We're obviously not going to get broke by 2050 and keep the temperature rise hopefully to under 1.5 degrees relative to preindustrial levels unless we get more innovation. And attracting seed capital and de-risking those kinds of projects, is certainly investors find them more attractive to invest in is crucial.

And the third thing is infrastructure. All our economies need to have infrastructure that's fit for this transition. If truth be told, Jamie has been pretty outspoken about this, we've done a woefully inadequate job certainly in some of the developed countries in investing in our infrastructure and doing so effectively and efficiently. We absolutely do need proper infrastructure investment plans that take our long-term view but have sustainability at its core. Because unless you get your transport infrastructure, your housing, and so on right, there is absolutely no way we are going to be able to avoid a climate catastrophe in the medium to long term.

Aaron Bertinetti

Head of ESG for Investor Relations

Fantastic. Thank you very much. Thank you all for a fantastic and very quickfire panel there. Before I hand over to our final speaker, I would like to also thank our investors for the feedback we have received over the last year. It very much was integral in informing questions that we've asked the panel today. And also, disclosure on our 2021 ESG Report. If you have any questions or wish to engage with us following this meeting, please feel free to reach out to myself or the Investor Relations team. Very happy to take engagements. We will also, as you'll find in the ESG report, we will be releasing a Climate Report and TCFD report in Q4 of this year, so please keep an eye out for that where we'll detail further information about what we're doing on our strategy for climate action.

And that means I get to welcome our final speaker for today, Ashley Bacon, our Chief Risk Officer. Ashley is responsible for the risk management and compliance organization across all lines of our business and he reports to Chairman and CEO Jamie Dimon and the Risk Committee of the Board. In addition to providing oversight of the firm's spectrum of risk-taking activities, he also serves as the Operating Committee Sponsor of the firm's portfolio of Environmental Initiatives, some of which you've heard of today. Ashley, thank you very much for being with us today.

Ashley Bacon

Chief Risk Officer

Okay, thanks, Aaron, and many thanks to Sarah, Rama and Chuka for what I thought was a very insightful discussion there. On behalf of the Operating Committee, I want to express my appreciation for everybody who joined us here today. As Jamie said, engaging with people on ESG related matters is key to our ongoing success. We are genuinely very open to evaluation and letting from alternate points of view, so we really do appreciate it.

Before we close, I'll make couple of brief comment here. First on climate related risks, you should know that are acutely aware of the need to institutionalize consideration of 3 very distinct risks around climate. Physical risk, transition risk, and perhaps most importantly of all, strategic risk. While now is not the time or place to go into the details of our analytics and our conclusions, I will tell you that we apply the same rigor and focus and strive to be as clear-minded with these new risks as we are with more traditional risks like credit, market, operational and so on.

It is clearly an emerging discipline, but it's one where we absolutely aim to be at the forefront. In terms of positioning the firm for a low carbon future, given the scale of challenges and opportunities that we've just been discussing, I hope it would be obvious to you that the firm's Operating Committee spends a significant amount of time focused on these things. And indeed, our board demonstrates ongoing engagement, interest and encouragement.

We continually discuss the role we play in financing, fossil fuel industry financing transition and advocating policy solutions. Focus extends deep into our lines of business. We now have dedicated teams who are entirely focused on delivering our climate commitments be it Paris or NZBA or our own greenhouse gas footprint. And indeed, capturing the opportunity for the firm.

As you know, you heard earlier, \$100 billion last year towards green financings, leadership in ESG labeled bonds and we've been carbon neutral since 2020. I reiterate this because I think it says we are on a good path. Our approach to playing our part in this significant global challenge is I think the right one. We have been ambitious, but at the same time, realistic and practical. More so I think than some. We've tried not to seek the headlines, but to be the voice of reason and integrity and we will continue to do so. It's very much baked into our approach to finance an ever more carbon efficient set of clients that you heard about earlier, our Carbon Compass methodology.

Ashley Bacon

Chief Risk Officer

We've not preferred this approach of de-banking quickly large sectors of the economy from the strongly held belief that you would not get better environmental outcomes from doing so. We do believe that near term, energy security is a legitimate factor here and we strongly believe that important distinctions should be drawn between different types of hydrocarbons. Again, it comes back to being thoughtful and detailed in our analysis. Some have even taken issue with taking certain hydrocarbons as a bridge to that point in time where green technology can deliver at the scale necessary for society. We believe again that this view of some hydrocarbons for the short term is completely legitimate.

Transition is a vast technological and financing challenge for the world, but we'll see some significant breakthroughs, probably some significant failures. But the key thing is this. I think we are unusually well positioned to facilitate this multiyear journey given our scale, reach, expertise and indeed drive to do so. Once again, I want to thank you for your engagement and interest in what I think we all agree is a key issue of our time. Thank you.

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