MACRO Voices

with hosts Erik Townsend and Patrick Ceresna

Jeff Currie: Metals, Energy, Commodity Super Cycle & More

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Erik: Joining me now is Jeff Currie. Many of you know him from his former role at Goldman Sachs. Jeff has recently moved to Carlyle where he's the Chief Strategist of Energy Pathways. Jeff, it's great to get you on the show. It's been way too long since we talked. I want to start with what the heck happened last Friday, through Thursday night, gold market was looking terrific. It had seemingly rejected the 50-day moving average, was rallying very nicely above that. Everything looked great. All of the sudden, as Europe opened on Friday morning, the selling began and just wouldn't quit with gold down 100 bucks in a single day. As far as I could see, there was some US economic data that didn't come out until 8:30, the selling started four hours before that. So I don't think it was economic data. Any idea what happened here? Was there some major change that happened at Friday's open in Europe?

Jeff: Well, it was economic data from the Chinese central bank showing that they had quit buying gold for the previous month. And it also showed some tapering of their gold purchases, as prices started to rise at the beginning of this year. Obviously, I take the view that one month doesn't establish a trend and commodities more broadly, whether it's copper or oil, that is the pattern of the Chinese, when prices come down, they buy a lot more and as prices go up, they taper their demand back. So I guess if you cover all commodities, oil and copper, the behavior you're seeing from the central bank with gold shouldn't be that as concerning, doesn't establish a trend. But for those of you do not understand the importance of demand coming from the Chinese central bank, maybe it's worth taking a step back and talking about why gold, and I'll throw Bitcoin into that, are the two best performing assets across the financial world this year in 2024.

Erik: Jeff, let's go a little deeper on that central bank demand. First of all, big picture, it seems like this massive gold rally we've seen over the last six months has been driven primarily by central bank demand. So why are central banks suddenly such big buyers of gold when it seems like retail interest has waned almost completely? And where is this headed from here? And particularly, what is with just one data report? That is I understood that report, because I saw it at the time. I dismissed it, because it seems like all they're really saying is they had the same reserves last month. So, they went one month without buying any more. That doesn't seem like big news to me, what am I missing?

Jeff: It's big news, when you consider how big of a shift in pricing this is for gold, because everybody's scratching their head in 2024. You know, you had real rates go up, you had the dollar strengthening theories, are two factors that would typically make the price of gold go down, yet gold continues to go up. So, the central bank demand from the emerging markets is fighting their traditional fundamental drivers of gold, and that's why it's so important. But it's also useful to take a step back. Why are these emerging market central banks buying so much gold? I like to put it in the context of why have we not seen dollar recycling, and by dollar recycling. I mean, let's say you're China, let's say you're Saudi Arabia, you sell your commodities and your goods, you raise a lot of US dollars. Historically, you would take those US dollars and you would buy US Treasuries. This would lead to lower yields in the US, which would then weaken the US dollar, and that weaker US dollar would reinforce reflationary pressures, and then they would earn more and it was a virtuous cycle that would create deflationary pressures and lower yields in the US and a weaker US dollar. And that manifests itself in a negative correlation between the dollar and the oil price. If you look at dollar and oil, they too have disconnected where you have stronger oil prices connected to a stronger dollar. It's the opposite of what we had seen. And this all started when we went off the gold standard in the early 1970s. The 1970s were characterized by dollar recycling. The 2000s were characterized by dollar recycling, so this is representing a significant divergence from the past.

Now the question you have to ask yourself now is, why aren't they recycling the dollars into US Treasuries? One answer I get is fear around purchasing dollar based assets, given what they saw with Russia following the Ukraine invasion, meaning, asset freezes or something of that nature, my own conversation with many of these emerging markets that are not recycling dollars, they tell me it has to do with the yields at 4.5% on the10Y are simply not high enough relative to their inflation expectations. I don't want to get into reasons why they're not recycling to dollars, let's just go with the observation. They're not recycling the dollars. So what are they buying? They're purchasing physical goods, like Saudi Arabia has had deals with the Chinese where they barter oil for machinery type goods, we see trade in local currencies, they're finding many ways to get around this. But ultimately, in the end, the settlement is bet in gold. And that's creating that excess demand, when we look at the increase in demand, and the central banks are Russia and China two big holder, it's increased by 60% in this post COVID, Erik, that's a lot of gold buying. And that's ultimately what’s generating these different correlations that we're not only seeing in gold, but we're seeing it oil, on the rest of the commodity complex. And it's a big fly in the ointment because we see commodity prices trying to go higher, yet they run into the headwind of the strong dollar, because you're not getting that virtuous cycle. So, the way I like to label what we have seen, is gold recycling, replacing dollar recycling.

Erik: Jeff, let's go a little deeper on the gold trade to start with, is the bullish thesis still sound? Is there still more upside in this gold bull market? And if so, how should we react tactically to what just happened because Friday's close was the first close in months below the 50-day moving average, that in the eyes of some technicians would be a sell signal, time to pair your gold position back expecting further weakness, buy it back in at a lower point. Other people would say, hey, you just had $100 down day in a bull market, buy the heck out of this right here. Don't miss it. Which way should we look at it? And where is this market headed from here?

Jeff: I like to say again, one month data does not establish a trend in these fundamental drivers that we're talking about, in the sense that the emerging market, central banks are not recycling dollars at the same rate they were before, but instead buying physical assets, bartering with other commodities. It shows that this is a new paradigm. You know, as someone jokingly said to me the other day, it's like the emerging markets are trying to force us back onto the gold standard. These forces, they're not going to change, they're not going away, they're probably going to get more embedded as we go forward. Because if you really want to put at its heart, it's part of this whole de-globalization part process. Whether you want to call it China block, US block, I don't want to get into the terminology we use for this, as those types of forces, they're with us, they're likely to go grow stronger, and gold is going to be a central part of this. And we're likely to continue to see more central bank demand. Yeah, because, I mean, take like China, that demand that we've seen for going forward. All that's done is kept their reserve ratios between gold and other assets constant, and it does not include other central banks, joining the same type of dynamic here. So I'm still very much bullish on gold price range of 2700 to 3000 in the next year seems like a very reasonable bet, if you see these fundamentals continue.

Erik: Let's move onto another metal. Copper, which also took a nosedive on Friday, was copper's nosedive on Friday related to gold's nosedive? As I know you've been very bullish about copper in the past, is this correction still young? Or is it already played out? Is it time to buy the bottom? How do we look at the copper market?

Jeff: I would argue as part of a bigger correction that's been going on for about a week and a half or so. Obviously, it was accelerated by the Labor report that came out on Friday. But I think there's a bigger issue connecting it with the discussion there earlier, about the end of dollar recycling we don't have in this commodity bull market that virtuous cycle of a weak dollar reinforcing reflation, creating more dollars in places like Saudi Arabia and China and for reinvesting it back into US Treasuries. It was that virtuous cycle of dollar recycling, that really allowed commodities to rally at a pace that would increase over time. One thing about copper is its length. And interest from investors is very high right now. But that price struggles to get over $11,000. It's like it peaked its head above there, took a quick look, and then boom, it got crushed back down into the lower 10,000s and then got hurt further, at the end of last week. I think that that is symptomatic, is that, particularly in the metal markets, they're struggling against that headwind of a strong dollar. So it does take that out of the picture. And I think, when we look at what happened last week is, you not only had the labor report, take away some of the probabilities of rate cuts, but you also had the ECB cut rates, which then further strengthened the dollar. So there's a big headwind that markets like copper are finding. But bottom line, the reason why investors like copper is that the story has an anchor, it has something as very easy to understand out in the future, meaning that copper is a superconductor, it can conduct electricity better than any of the other metals. For those who don't know what superconductors are, if you look at the periodic table, there's three elements that sit in the same column, gold, silver, and copper, and those are your super conductors. Now, gold and silver are too expensive to go out and wire the world with. So, we choose copper to be the superconductor of choice. If you believe we're going to decarbonize the world, you believe we're going to need a lot of

copper to electrify it. And that's what creates that longer term demand that has investors comfortable in seeing through any type of near term noise to own copper long term. And when we look at the fundamental picture for copper today, part of the reason why you know it sold off is, we'll talk about oil further, you can't give oil away to an investor but the fundamentals of oil are better near term than what they are for copper today. Now, that's been proved and if you and I were talking Erik, copper has moved back into backwardation. But I think the key point here, in the term when I was at Goldman, we called copper the new oil, because it's going to be the strategically most important commodity. I think that still holds true. And I would view the sell off as being a buying opportunity for thinking about copper longer term.

Erik: Let's talk about that backwardation. Specifically, you know the commodities industry far better than I do. It seems to me that there's a very strong, long term structural argument, which is that if copper has historically usually been in a contango market, meaning you have to pay a real premium every month in order to hold a long position, and it transitions into a longer term structural backwardation, which seems to be happening right now. That would mean that copper would have the same characteristics that oil has, which is you're actually better to hold the commodity than to hold producers of the commodity because you're getting paid a roll premium every month, it was you roll that position forward. Is that the right way to think about it in could that be the reason for copper becoming a super popular trade in coming years?

Jeff: I absolutely think that the carrier is going to be critical. By the way, copper used to be backwardated all the time like oil pre ’09, it was after ’08, ’09 that it started having, that copper, we'd argue traded like an emerging market equity because it was a proxy for what was going on in China. And from that point forward, it was always being driven like a proxy for the EM, MC, MSCI. And by the way, go back and look at the correlation between copper and long dated copper and the MSCI for emerging markets. It's mind blowing how correlated it was, which tells you that copper was a unique commodity in the sense that it traded more like an equity and on those future expectations of fundamentals in the EM. And what's been different about 2024 and why is copper finally working? Because by the way, like the last time you had me on this, Erik, I was pounding the table buying copper and that time before that pounding the table and buying copper, I sound like a broken record. Why is it finally working? The reason why is, that disconnect between the emerging market story and the decarbonization story, people could not buy copper a year and a half ago or two years ago, when they knew that Chinese property market was shrinking. They needed to see evidence that the green CapEx story could dominate the property market story in China. And we've seen that over the last year, particularly in the first half of this year. So people have decoupled that emerging market story from copper, and now have connected it to being a commodity type story, which is why we're seeing the backwardation return because it's now behaving like a commodity and less like emerging market equities. So, I would argue your case in point here is that roll yield is going to be an important source of returns going forward, which is unique to the commodity markets.

Erik: Let's move on to energy, particularly the crude oil market. We just saw a brief trip down to the low 70s. That was on the back of some OPEC+ news that they were not going to indefinitely extend their production cuts. We're starting to bounce back off of that right around 80

on Brent. Where are we headed from here? What's the big picture? Where is this market headed?

Jeff: I'm bullish on oil, and maybe getting above 100 is a stretch, but from here into above 90, I think is a very realistic outcome. Particularly given where we are in the business cycle. It is late cycle at this point, if you think about ‘22 and ‘23, as being the mid cycle pause in this current cycle, meaning that period where the central bank raises rates, the system pauses, it accommodates and acclimates to the higher rate, higher energy prices, rebalance itself, and then takes off in the second half of the business cycle, and that’s the late business cycle. That is when oil and commodities performed best. Now, I haven't checked it in the last couple of weeks, but when you put it all together, commodities were the best performing asset class. I know that was true two weeks ago, I don't know if it's true today. So I just want to caveat that, but I think the key point here is, commodities and physical assets always performed better in this environment. And we don't think that this cycle is any different.

I want to talk about the business cycle and then talk about the structural story further. But I think when we look at the fundamentals of oil today, they're not that bad. But by way, the spec position in oil is the lowest it's been in well over a decade, lower than what it was when we went to negative oil prices, at least in Brent. And you put it all together, the market is acting like we're in the middle of recession or some other crisis from an investor perspective. Yet the fundamentals, we just came through the shoulder months, OPEC gave a plan to increase production, conditioned on if the demand is there. So they didn't really provide that much new information to it. Most people had that oil coming back in their balance tables in June anyway, and they just got pushed out. So to me, that seems kind of bullish the jet travel season, the gasoline driving season off to a big start so far, that weakness in demand that people focused on was during the winter, when you had the warm weather, derailed the demand for oil, you know, and even then you take that bad start to the year, we're tracking around 1.3 million barrels per day of oil demand growth. That's above trend. I want to repeat that that's above trend. And this is supposed to be a bad year for oil. What has oil done in that post 2019 period outside of COVID has done nothing but surprise to the upside. Yeah, everybody is concerned about oil demand. And when we think about copper mindset before, investors will buy copper because they see an anchor to it. They're comfortable in that long term demand story. They don't want to touch oil because they do not believe in the long term demand story. However, what is a commodity supercycle? A commodity supercycle is a CapEx cycle. And I don't think anybody listening to this is going to disagree. We aren't beginning a big CapEx boom, driven by green energy defense spending, and you're seeing it across the commodity complex. So we have that makings of a commodity supercycle through a CapEx cycle that is stimulative not only for metals demand, but also for energy. And I'm just going to go back to the bottom line observation, is oil demand is trending this year in a weakened environment above trend demand growth and it has done nothing but surprise to the upside. So that's my foundation of being bullish, but I want to add, even on the supply side, that all that spare capacity is isolated in a few spare capacity, oil production is isolated in a few countries and Saudi Arabia and the UAE being the largest there. We look at the surprises in US production that occurred last year. They're not repeating again this year. And when we look at the non-OPEC production increase that people

focus on, whether if it is places like Guyana and Brazil, which are disappointing. Now, that's from CapEx spend, that goes back nearly a decade ago. So we look at the pipeline of new investment, it's not there either. So let's look out past 2025, 2026, I would argue oil starts to become much tighter, but people are unwilling to buy that longer term story, which is why positioning is so weak in the current environment. But, the one kind of markets I like to own are the ones, the markets that are really short, and this is one that's really short, the fundamentals don't match, it's positioned for, I think, a pretty big significant rebound in prices, particularly as fundamentals improve as we get into the summer driving season. So I'm much more positive on energy near term. I love copper story, because I got that anchor and feel comfortable in it longer term. And I think that people should feel more comfortable about oil, because we're not going to get to that death scenario on oil demand that people fear for at least another decade or more.

Erik: We've had a few different MacroVoices guests share and express the opinion that US natural gas prices are headed much, much higher in coming years. The reason is they expect essentially that an arbitrage becomes efficient, where the export of natural gas from the United States basically allows US and European natural gas prices to balance each other out. That seems to be, you know, perfect logic to me. But I've been hearing that story for years, and it hasn't happened yet. Is there something inherently wrong with that, that it's not going to happen? Or is it just slower to happen than people thought? Or what's going on there?

Jeff: It happened in 2021 and 2022. Everything disconnected in ’23 and in the early part of ‘24. And one of the reasons for that is, let's not forget China, India, and Indonesia, took coal production up the level of Saudi Arabia, equivalent of over 7 million barrels per day. That's a lot of energy that hit the global market. And what does that back out, it backs out LNG. Now, that's part of the reason why gas prices went negative in 2023 in Europe, and we saw gas prices in the US sink to all-time lows on the NYMEX at the first part of this year. So, there's a lot a lot of one offs and the one thing that I'm comfortable saying in the conclusion of energy transition, is that particularly given renewables that reduces our ability to create a cushion in store and increases intermittency problems, means gas and power prices are going to be a lot more volatile, you're going to see these disconnects in the fungibility like you're referring to where it disconnects, drops down. But your ability to explode back to the upside, once everything gets tight again, is substantial. And I don't think we've seen the end of this commodity or energy crisis on a global basis, because, again, the investment is not there, demand is at the low point, it's likely to rebound. And that's going to put pressure back on the system. But I agree with those that have come on the show, and talked about the fungibility of commodities, because in my 30 year experience of doing commodities, the one thing I never will underestimate after watching it over and over, you may not see the pathway for two commodities to connect through energy content or some other source where they substitute. But somehow, someway, they will, whether if it's exporting coal around the world to connect them or exporting chemical goods, where there's a will, there's always a way. And the one thing that I have learned to never underestimate is the fungibility of commodities and their ability to connect with others. So I agree with those who've come on the show and made the point that, ultimately, they're going to connect, but what will that do? It will create much higher prices that will adjust, it'll probably let go again, and you'll come crashing back. I like to point out at the core of a commodity

supercycle, it's not this idea of steadily rising prices over time. There are a sequence of spikes. And that's what, if you look back at what happened in the 2000s, it was spike after spike, what happened in the 1970s, it was spike after spike. And those spikes occur when you actually see that fungibility in that connection that you're referring to take place. So, I'm very much in agreement with that, but where I will probably disagree, it won't be lasting. It'll just tee you up for the next price buy.

Erik: Jeff, while we're on energy, let's move on to Uranium, something that's really interested me. I've seen some incredibly, incredibly strong bullish arguments for the uranium market right now. Based on Justin Huhn's analysis of the physicals, and so forth. The thing is, the buyers are just not moved by it. Justin just went to the conference, he tells me that when he went to the conference, the buyers have no sense of urgency, everybody's complacent. They're not worried about uranium demand on the buying side. What's going on here? And is this a market? It seems to me like it's set for a rude awakening where the buyers realize, holy shit, this is not just another 2007 spike, we have a structural problem here. Would you agree with that analysis? And where do you think that the uranium market is headed?

Jeff: Yeah, I agree with that analysis. And one of the push backs I get from people, they go, yeah, I hear you. It's all great about nuclear power and uranium. But when you look at the cost basis, they don't hold a candle to renewables. That's the pushback I get. And my answer is twofold. One, you're not factoring in the intermittency costs of the renewables that substantially escalates the overall cost structure, I've seen estimates as high as 14 times. Because remember, you got to replace that intermittency of that solar, wind, something that's close to being free, with something very expensive, in places like Europe in 2022 and 2023, it was really expensive. So that's one reason. The second reason I think that they underestimate is that a lot of the costs on the nuclear side that makes it more expensive comes from the bureaucratic red tape, which I know you're an expert in, Erik. But I think those are many of the factors that create why people are not that optimistic. Yeah, I'm in the camp. Yeah, I think the upside here is substantial. If we are going to decarbonize at the rate the world would like to, nuclear has to be central to that thesis, which means you're going to need a lot more demand for uranium, to be able to fuel a carbon free energy source. So I'm very positive on it. But I agree with you the investor pushback, I think that that pushback is underestimating the real true cost of many of these alternative sources with renewables on front and center.

Erik: Let's move on to a couple of commodities that have seen some really big price action lately. That's coffee and cocoa, what the heck is going on there?

Jeff: Climate change. When you look at coffee and cocoa, they're tree commodities, they primarily come from the equator, the belt around the Earth and that's an area that's been substantially impacted by climate change, whether if it's in Central America, and Honduras is in places like that, where we're coffee production has collapsed. And I think the one thing that cocoa is separate and distinct from coffee, and is that the demand for chocolate was hit particularly hard during COVID. Because where do you sell a lot of the chocolates? In airports and airports shut down for what, 18 months, two years during that time period? And so the

demand was hit pretty hard. That collapse made the collapse in prices that much bigger, you didn't have the supply that has now been hit by climate change. Why did I comment these are tree commodities? It's going to take a long time to, it's not like corn where you know, the stock comes down and then you replant, it grows again the next year. Trees take a long time and coffees are more bushes than trees. But the key point here is that you're talking years to rebuild the supply base of these different tree based commodities. So where are we in this process? Again, what is the definition of supercycle, sequences spikes we just saw, you know, a price spike above 11,000 on cocoa and then you know, crashed back down to seven and we were up eight or nine again, it's that type of volatility. That's going to be apparent here. The one way you can think about, you run out of supply, you run out of your inventory buffer, you go into those knife edge equilibrium, which means prices can spike really high to the upside and they get crushed down to the upside. By the way, we're getting close to that on copper, and it will be there in the next 12 months, similar to what we saw in cocoa. But if you're thinking about the soft coffee and cocoa in particular, this process is going to be very long journey, given the fact that the tree commodities and reproducing supplies can be very difficult.

Erik: Jeff you've mentioned the commodity supercycle a few times, that's been a contentious phrase some people think there is a supercycle, some people think there's not. Why is it contentious? Why do you argue that there very much is a supercycle? And why is it a CapEx cycle as opposed to just a supply and demand cycle? How does this work? What do investors need to understand in order to anticipate how that CapEx cycle is going to affect commodity prices?

Jeff: When we look at the history of CapEx cycles, and may have a great chart that takes CapEx back to the '60s and puts real metals prices on top of the CapEx cycle, they're perfectly correlated. You see a big CapEx cycle in the '70s, that peaks right when Volker goes in and really raises rates. And then you see another one in the 2000s. The data shows you're already back up into another CapEx cycle. Think about all the IRA money in the US, the AI, investment around AI technology in the data centers. All that's creating a huge CapEx cycle. By the way, the three big drivers of this CapEx cycle are going to be AI data centers, decarbonization and then you have de-globalization, you know, the three D's here, datacenter, decarbonization and de-globalization. And you can think about the de-globalization as being defense spend. And when we think about the '70s, the CapEx cycle was similar in nature, you had huge defense, remember, that was guns and butter. And then you had a desulfurization, as opposed to decarbonization. And then you had the war on poverty. That was the great society. So, the amount of CapEx there was unprecedented, biggest one we've ever seen globally. And it helped fuel the commodity supercycle, the one in the '70s wasn't as inflationary because it was driven by China, which then created some deflationary pressure in the West, but the concept was exactly the same. And we're seeing that same type of CapEx boom, why does that create strong demand for commodities across the space, it's stimulus. Also, who's going to get those jobs, it's going to be low-income, blue-collar workers who spend more on commodities. So the setup is very similar. Early estimates suggest, particularly given the magnitude of decarbonization, that the investment this decade is going to be equal to one China in the 2000s.

In next decade, it's two China's. So you know, this is going to be 2x China, given the magnitude of the investment, which is why the upside on copper here is substantial.

And I think the other push back people are going to say, well, there's more than enough oil supply. We got a lot of oil supply, because and we saw governments around the world turn a blind eye on some of the key initiatives that they thought were important going back to 2020. Whether it was sanctions on Venezuela, sanctions on Iran, both are producing substantially more oil today than what they did in the past. Sanctions on Russia, Russia is producing near max capacity. And then what about environmental? You know, more coal is at a record production right now, Chinese coal is near a peak, and same thing with Indonesia and India. By the way, Chinese coal, let me point something out here. And I've watched this now since 2015. It says, 2015 no commodity bull market can occur without Chinese coal rolling over. And there's a lot of evidence pointing that it's beginning to roll over right now. Why is that the case? Because they power the steel mills, the aluminum smelters, the copper refineries, all being powered by coal fired generation capacity. And then if you take the coal out, you not only lose all that metals production, but you got to replace it with LNG, which then tightens the global LNG market and then tightens the rest of the global markets that coal is really critical there. But I think the key message here is that that coal production that increased, remember when I was talking about that 7 million barrels per day, that create a lot of supply of energy around the world that looks to be abating. But I think those are the two reasons why people really push back on the supercycle thesis, is that they see that supply creating a pause in those energy bull markets. And the fact that copper has just struggled to get above 11,000. I think the other thing that needs to change here is, the strength of the dollar needs to abate. You know, that's a whole different MacroVoices discussion. I'm sure, Erik, you've done that many times, on the outlook of the dollar given the deficit spending in the US, although there's another one, but it's pretty hard to argue the dollar could get much stronger than here. So I view that as being a tailwind. too, as we look further out.

Erik: Well, speaking of broader MacroVoices topics, I want to move on now from the commodities supercycle to the Jeff Currie supercycle. Because Jeff, you had, what a lot of people think is probably the top job in the entire industry in commodities. You were the head of global commodity strategy for Goldman Sachs, probably the most prominent and highly respected investment bank in the business. You left to go to Carlyle, a big firm, but still a smaller firm. Most people wouldn't have done that. So what's going on? Why would you leave what a lot of people thought was the top job in the industry? There must be a backstory to what you wanted to do or why you wanted to do something that was different. And what is the new position at Carlyle?

Jeff: I'd love the opportunity to talk about this, you know, it was more opportunity. I don't want to be cheerleading on this story of this supercycle this time around, I want to be participating in it. And yeah, Carlyle is one of the best places to be able to establish that ability to participate. You know, it's an iconic franchise, pioneers in the private equity space. But here's a really important reason why Carlyle, is don't underestimate their DC roots and their connection to policy. Because let's not forget that the green transition we would have done this decades ago,

if the economics proved that they could be superior to carbon based fuels. They aren't, which tells you policy has to come in and drive this. Where did Carlyle get its roots? It was doing defense, you know, again, policy driven spending, what are we going to see in this commodity supercycle, massive amount of policy investment to push the green agenda and reduce carbon because it's not going to happen by the economics on their own. We have defense spending, like we've seen before, but this is going to be higher. So you have those same forces at play, particularly from the policy side, for which I would argue Carlyle is in a good position. And the third reason is, it's a world class energy franchise. They've survived the last decade and a half, been very, very few have remained committed to the overall energy sector.

And there's one last thing, we use the term energy pathways, what do we mean by energy pathways? So far, when we think about this, the energy transition, the focal point has primarily been on the green and only the green. This has created a disorganized, chaotic transition, and by pathways, we suggest you got to be focused on the brown and the green in the pathways, connecting the two. Do we know what that pathway looks like? I could argue, absolutely not. You know, I like to point out when we desulfurized in the '70s, did anybody actually know at the time that if you put platinum and palladium into the muffler of your car, you would get rid of all of those aerosols that were creating the smog and the problem at the time? The answer is no, it was a pathway that required trial and error and investment. And that's ultimately what we need to see happen in this environment. And so that's why we like, let's focus on the pathways between the brown and the green. And there's another important point here is, there's been a disowning of emissions and brown assets. That doesn't solve anything. In fact, anything it shirts the responsibility of decarbonization. If you're going to decarbonize, the only way you control those emissions is if you own the emissions, and then you turn them down by just pushing them out of the portfolio, they just go somewhere in the world like India, Indonesia, China and the production goes there and they never go down. And so, the problem with net zero by just taking everything out of your portfolio and going there is, they're not actively engaging the decarbonization process. And so, what we argued, you have to own the emissions to control the emissions. And I think the key point, I'm not trying to dismiss net zero, but I think the key point here is that the decarbonization here needs to also focus on the change in emissions, bringing the emissions down, as opposed to some concept of net zero. So let's get them down this year, what about next year, and I like to point out what Carlyle, through investments in like substance, so forth, they have got emissions down in some of these brown assets. And I think that's an important accomplishment, particularly in the environment where we see emissions going up. And so, I'm excited about being a part of this. And I think they're incredibly well positioned to help facilitate the energy transition, particularly given its roots connected in policy, because let's not forget, this is going to be a policy driven event.

Erik: And what is it exactly, say, that you're doing you're managing a fund or you're doing something else, what's the something else?

Jeff: I'm part of management, the Chief Strategy officers of the entire group that's going to focus on these pathways and my role is a little bit like it was at Goldman, educating our clients on different aspects of energy transition and then being a part of both raising funds as well as

being a part of the deployment process which the deployment process I think is gonna be very exciting because there's a lot of different new technologies that are coming our way and interesting to look at.

Erik: Well, Jeff, I can't thank you enough for a terrific interview. But before I let you go, please let our listeners know how they can follow your work, how they can contact you for our institutional listeners who may be interested in your fund offering and generally how to follow the new Jeff, the post Goldman Sachs Jeff.

Jeff: Great, well by the way, we don't have a fund offering yet but we would love to hear from you, my email now it's just like it was at Goldman: Jeffrey.Currie@carlyle.com. So I'm fairly easy to reach. It's still early days, we've not started to publish and put things out yet, but we would love to hear from you and please reach out to my email. And thank you, Erik. This was a very enjoyable conversation.

Erik: It's always great to have you on Jeff, and we'll look forward to getting you back for an update in a few months. Patrick Ceresna, Nick Galanyk and I will be back as MacroVoices continues right here at macrovoices.com