MACRO Voices
with hosts Erik Townsend and Patrick Ceresna

Jeff Currie: Repricing of Macro Markets

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Erik: Joining me now is Jeff Currie, Chief Strategist for Energy Pathways at Carlyle. Jeff, it's great to get you back on the show, it's been too long. Let's start with what's going on post the Trump election decision. It seems to me like there's a lot of anomalous pricing in markets, a lot of things are going in directions not everyone expected, including treasuries, particularly. What's driving this is this passive investment versus active investment, as this credit spreads, why does it feel like markets aren't quite doing what everybody expected?

Jeff: Yeah, I think your point, taking it from a really broad perspective here, is it's not just isolated to markets like the credit spreads, or it's not just isolated to equities, where you see 39% of concentration in the top 10 names, or in oil that fails to get a war premium bid. It's in across the entire macro space. So, it's exciting times, lots of opportunities. Let's just go through each one. Let's start, I think, as you pointed out, let's start with treasuries. Those are the markets, I think, where you see much more anomalous pricing. And I think it begins with the credit spreads. You know, you got a situation in which, when you look at US Treasuries sitting there at somewhere around 4.4% right now on the 10-year, versus investment grade running just shy of 5%, we've never seen such tight credit spreads ever, is that an indication that the US is a worse credit than potentially investment grade? I've met people who have made the argument to me, you could see Apple trade through treasuries, or is it, as you point out, being driven by passives out there. You see it in high yield too, that's running somewhere around 7%.

So we're in a very anomalous situation right now. But I think, talking about in the context of the Trump trade, the one thing that fore stepped treasuries was a significant concern around the size of the US deficit, driven around tax cuts and tariffs creating inflationary pressures. That put upward pressure on yields, but that's just part of the story. You got to look at what was going on in the corporates and the tight credit spreads there. The explanation I hear from credit traders is, you had many corporates holding back supply as they waited for rate cuts. Whether or not that's true or not, we'll find out, but I just think, let's put that observation in the context of what's going on in the equity markets. And I think your point about passive investors is also a really critical one. That I'd argue in the post-COVID era has been the biggest shift in markets. We went into COVID with passive investors owning less than 50% of US equity markets, were coming out with passive investors at 60%. The thing that drove that is during the lockdowns, we saw all those checks sent out, and people only had two things, shop online and invest in equities, because fixed income products had a 0% interest rate. And they used these passive ETF vehicles to enter the market, and that's how those percentages got so high. But once they got so high, they crowded out the active investor, and are now the dominant player in at least US

equity markets. And that reinforces this idea that big gets bigger, and also most of it's concentrated in the American. And so if it's big and it's American, it's getting bigger, which is why, when you look at concentration, you've got 39% in the top 10 names in the US, which is anomalous. But it doesn't stop there. We can go and we can talk about oil and other markets. I think the key point here is, we're going through a major transition in global markets right now where the marginal buyer is changing, the marginal market is changing. And whether, if it is looking at currency markets, is it gold, or is it in oil? Is it gas and these other markets? So I'd say that the way I'm interpreting all these events is the marginal buyers changing and the marginal market is changing.

Erik: I should mention before we get into specific prices, that we're recording this interview on Monday morning, just after the European open. So, Jeff and I don't really have this week's price action. We only know where the markets opened early Monday morning in Europe. Jeff, as I look at the dollar index chart, boy, Friday looks almost like a reversal candle to me by itself. And then as I see the early trading on Monday, it really seems to be confirming that maybe that great big move up to 108 that we tested on the DXY on Friday. So seems like we're below 107 now, 106 spot 92 as I'm speaking, early on Monday morning. Was that the top, or is that just taking a breath before the next surge higher?

Jeff: Well, I think when we look at Scott Bessent as the potential treasury secretary, they've been very vocal about coming up with Bessent to create a weaker dollar to help trade inside of the United States. And when we think about one of the stated goals of the Trump administration is combat the strength of the dollar, whether, if it's a new version of the Plaza Accords. I'm not like the expert, I'm not going to get into that. But I think, again, it goes to a bigger question here are Bitcoin and gold talking about, what is the marginal measure of, let's say, a safe haven. Is the dollar that unit that measures the safe haven, or are we seeing it shifting to gold, Bitcoin and something outside of the US system? Again, going back to my point that the marginal buyer and the marginal markets are beginning to change, and is this being captured here? But, I think in terms of looking at the top, and we're here to talk about commodities, one of the biggest drags on commodity pricing, and I would say particularly, let's take copper. Why is the copper story that we've been so vocal about not played out? One of the bigger drivers putting the cap on prices is the dollar. It just continuously gets stronger. I know we'll talk about oil a little bit further on, but I think, there too, the dollar has been a big headwind for overall commodity prices pretty much, with the exception of gold, which again, suggests that relationship is changing. But I think, I have to agree, we're probably at a top there. And I think a lot of people are looking at the stretched equity valuations for all the reasons we've talked about before, the stretched credit valuations that we just talked about before. Commodities, they're the one asset class that have been left relative to all the other markets, are they in a much better position going forward? And clearly, with the dollar hitting a top and reversing, that would be really good news for the commodity trade.

Erik: I'll come back to oil and the other commodities, including copper, in just a couple of minutes. But let's go a little deeper first on Bitcoin versus gold and what's going on there. I have to confess, I was the most outspoken voice to say, look, as much as I appreciate what the

Bitcoiners want, which is for Bitcoin to become a serious currency that competes with the dollar and maybe eventually as a contender for global reserve currency, I said, look, there's no government that's ever going to allow that. They're going to fight it tooth and nail. Well, the Trump administration has clearly proven me wrong. It seems that the Trump administration may be the one to do a government sponsored and government sanctioned, hey, let's allow Bitcoin to democratize money itself, so that governments are no longer in charge of coining money and that it's decentralized. I never thought that I would see that come from a government. Is that what's happening? Is that what the Trump administration wants? And is it something that the Trump administration can even get away with, or is the larger resistance of institutional finance and institutional government going to prevent it?

Jeff: Well, I definitely agree that's been one of the key drivers of this rotation out of gold and towards Bitcoin more recently. But both of them have been the new standouts in the currency world as representative of that safe haven. With respect to the US allowing Bitcoin to be used as officially sanctioned currency, I think the key point there is, they're going to want to have insight as to who owns what and whether it was insight into the custodian of the Bitcoin, and that's been some of the setups that have been looked at before. So yeah, while I agree with you, this is the best chance Bitcoin and crypto currencies in general have to be officially sanctioned, but I'm still going to go back to the point, what they ultimately want to see is that custodian relationship and who owns what. Because I think letting complete control of that, I'm going to go back to your original thesis, I just don't see a government allowing a 100% loss of that control. That could be debated. But a lot of those different crypto exchanges are your typical gold style custodian relationships, where they can peek into that. So while they are likely to head that direction, I think your original thesis is probably still going to hold true, that any type of arrangement that's put forth will still have some type of custodian relationship there.

Erik: Will certainly be interesting to see how that one plays out, because what you're saying really is government would say, okay, it's okay for you to have Bitcoin. We want to reward the Bitcoin crowd that supported President Trump in the election, but we're going to redefine what that means to be you have to hold Bitcoin in a way that really goes pretty much against everything that Bitcoin was designed to do and designed to be. I guess the question then becomes, how many of the supporters that President Trump wants to appeal to are the purists who really understand those arguments? And how many are just people who kind of think number goes up, Bitcoin is cool, I get to have it now in a custodian account, I'm happy enough with that. I guess that's the question as to how well that will play out.

Jeff: By the way, I think the purists that understand, it's a pretty small crowd. Today, with gold, I'd be surprised how many actually really understand the custodial relationship they have when they're buying gold.

Erik: Let's move on to energy markets. I've talked to several people post the Trump election, both on this podcast and elsewhere, I'm noticing a pattern where everybody's kind of scratching their head saying, okay, explain the oil market. Well, it doesn't quite add up to the same calculus that used to work. So is this because the China stockpiling demand dynamics are changing post

the Trump election? Is this because of the sudden interest in natural gas with the security issues in Europe? What's is the tail wagging the dog? Is the dog wagging the tail? What's really driving energy prices?

Jeff: I think that's an excellent question. Going back to the marginal market, the marginal buyers are changing there. My short answer to this is going to be, natural gas is finally the marginal molecule in the world right now. Let's take oil, I've been out there trying to explain price action by the shift in investors. The market's short, by the way, investors have given up on… well, they're not short, they're not long. They just left because they don't understand it. So, my explanation is gone. Other ones are going, oh, it's super bearish on the forward outlook. They take the bearishness in China, extend it forward. They argue all the lot misses in last year's non-OPEC production gets pushed into next year, and they got these huge increases, and they try to explain a supply driven bear market for next year. I don't buy that. Why do I not buy that? Only two times in the history of the oil market have we had a supply driven market. One was 1986 and the other one was 2015, both of these occurred after decades of massive, large scale investment. It was deep water coming out of the 70s, in the early 80s. And it was shale coming out of the 2000s and the early 2000 was intense. We don't have that this time around, and so we don't have this enormous production that is coming on. They also argue that OPEC is going to do a price war to get market share back. But who are they going to have a price war with? We look at the US production, when you look at black oil, is relatively flat with where it was a year ago. Yeah, it's up a few 100,000 barrels potentially, we'll know at the end of December. But the year over year, exit production levels are going to be roughly, maybe a give or take, 100,000 barrels per day it could be down. Most of the growth has been in natural gas and liquids, not in oil. You must remember, these things are light products that create petrochemicals. They compete in the gas market. They don't make things like diesel fuel and gasoline and the other types of fuels that are critical to the black oil market. And we look at Guyana, one of the other ones they focus on, that's investment from a decade ago, from that previous Super Cycle. Or Brazil, from the previous Super Cycle. So I'm not in that camp for a big glut. So what's going on? Why is oil so confusing? Yeah, I'm going to go back to the Trump trade. And let's go back to really started taking off in September, and we started this discussion with treasuries. Treasury yields went up. Break even started to increase, because people see that Trump's going to be inflationary and worried about the large deficits in the US. Well, oil disconnected with treasuries. A lot of you seen the picture of that in break evens. What I want you to go back and look at is the picture of TTF in break evens. TTF in US Treasuries. TTF is the best measure for global LNG right now and when we think…

Erik: And for everyone not familiar, Jeff, please define what TTF stands for.

Jeff: It's the title transferring location facility. TTF is Title Transfer Facility, and it is in Europe. It's like a virtual price of all these points in Netherlands, where you bring in the LNG from parts of the rest of the world. And since Europe is the marginal LNG buyer, that's your new marginal LNG pricing hub. And so, I'll go back to Goldman Sachs, back in 2000 I remember we put out this piece using that riff of the Stone Age ended long before we ran out of stones that people would quit pricing oil. Remember, the story there was peak oil, was peak supply, and that gas

was going to become the dominant molecule. We waited, waited, it didn't work. Shale came on. It's not working. You look at the fact that TTF is now pricing break even inflations, and you think about, what can LNG be used? They can truck it in for data centers, you can use LNG. They're using it for trucks in China, we're using LNG for everything now. This is not a green thing, it's just a low-cost fuel that now it can marginally swing around throughout all the different uses within the global energy system. When we look at cars, when we look at EVs battery, EV sales have dropped off tremendously. What has replaced it and what's the best-selling car? It's an HPEV, it's a hybrid plug-in EV. Why? It's got gas. Because you can drive your car off of natural gas, off oil, off coal, off nuclear, basically that hybrid can do all the above, it hedges you. And so when we think about the one fuel that can swing between the power grid swing, you know, drive your HPEV, it can drive your BEV, your cars, your trucks, it's now gas. Gas is that new marginal molecule that can swing throughout the ecosystem. And I think that's critical here, because when we think about the marginal molecule, and you calculate TTF, I know on Friday morning, it was trading around $14/MMBtu, multiply that by six, it's getting you over $80 a barrel. Brent's trading at $72, $73, so the top of the energy stack is gas now. And I think that what has happened while we're all telling these stories to try to explain price action in Brent, what has snuck up on us is that marginal molecule is now natural gas, and not oil. And we have to really rethink how we think about energy markets right now, because I know it’s me fighting the tape going, oh, it's investors leaving the market, people going, there's a big surplus coming tomorrow. By the way, there's no evidence of the surplus today. It tells you we're all grasping for stories to explain some price action, and while we're all arguing over oil, it is really TTF that's moved into the pole position. I think that's what's happened here.

Erik: Now, historically, oil markets have been quite efficiently priced globally. If there's a difference between one part of the world and the other on the price of oil, it's going to come down to transportation costs. And if it goes beyond that, somebody's going to orbit, it's all going to get efficiently priced. Natty, on the other hand, has been all over the map, US Henry Hub versus European natural gas, dramatic price differences that are even with the higher expense of transportation. Those price differences go beyond that delta that exists in production cost and transportation cost, because there was never really an efficient arbitrage market for bringing it together. A lot of people have predicted that US natural gas prices would go up and European natural gas prices would come down as we got better at transporting natural gas, and also as we develop more export terminals in the US, so that we have more capacity for doing that. Is that part of what's happening here, say, Henry Hub versus TTF pricing is going to get efficiently arbitrage going forward, or is there more to it than that?

Jeff: No, it's 100% the story, because we have more of this moving around on ships, through the LNG ships, and that's where the marginal growth out of the US market has been. And similarly, a lot of the investment in places like the Middle East, in the marginal imported BTU into China is an LNG cargo. The one being imported into Europe is an LNG cargo. But it doesn't stop with these regas terminals. What we're seeing is data centers using it, we're seeing trucking in China using it. So, it's starting to become proliferated around the world. And I think your point about, and I agree with it, Henry Hub has traded, was trading at below $3 in MMBtu last week. And then, TTF was trading at $12 to $13 in MMBtu, but that's your point in Europe.

That huge spread is not explained by the $1.50 of transportation costs between the two areas. But you starting to see the pool, US natural gas is up, you know what, 30 cents this morning. And is it cold in Canada driving it or is it very large increase in TTF prices over the weekend driving that arbitrage? I'm going to put more on the arbitrage than I'm going to put on some cold way up in Canada, where it's hard to get pipes up to, it's probably the TTF. And I don't think people are accustomed trading US Nat gas market to look at, hey, what's going on in Europe today? And I think that they're all focusing, yeah, there's some cold going on way up north and in Canada, but obviously there's no cold going down in Louisiana, where Henry Hub is. But why is Henry Hub up? Is because it's really cold in Europe today, and you're getting a bit in that global LNG market. So, we started this out as being the theme here is the marginal buyers changing, the marginal markets changing. And I think once again, in energy, we need to be thinking differently and thinking broadly here. And trading US natural gas is going to require looking at, hey, what's going on in Europe today.

Erik: Let's talk specifically about whether there's an actionable trade there. Because at first glance, it sounds like boy, long term, it would just make a heck of a lot of sense to be long the US natural gas contract is short the European TTF contract. And you know, just keep rolling those things, and you ought to do well in the long run. But they call the Natty contract 'the Widow Maker' for a reason. It has to do with the seasonality of that futures forward curve really throws some monkey wrenches into things. So does a trade like that work? And if not, is there an efficient way that you can put a long-term trade on to benefit from, what sounds like, what you're predicting is a convergence, longer term between US and European natural gas prices.

Jeff: Let's go back to the very first question when you asked about the predominance of passive investors. Now, therein lies the problem, is that to put these positions on and you got to be buy-and-hold. And when we look at the available capital in markets today, it's the barbell. They're sitting either in private equity shops with this super long-term horizon, or they're sitting in the, I'm talking about the marginal dollar that's buying assets. They're, say, either private equity on one side, and they're sitting in, like the multi strats, algos, quant funds on the other side, which are all basically momentum players. the group in the center, the old Soros quantum fund that would take these big, long term type views. There's no long-term punters that want to close those arbitrage anymore. And I think, the fact that the passive players are reinforcing, if you're an active investor and you're trying to punt in one of these markets, and you got 60% of the passive guys buying Nvidia and the rest of them, if you're not sitting there in that wake, your returns during that period, while you're waiting for that natural gas trade to work, are going to get destroyed. You can't hold the position in this day and age. And I think that that's really the key. So, you're absolutely right. There's a great opportunity in there, but it's called a widow maker. It'll only be a widow maker for a few months. It gets cold or warm or something like that, but you gotta be able to go, okay, I believe in this trade. I'm going to hold it. It's going to work. But people in the current environment cannot take that kind of horizon. And you have a lot of trades like this, they're open up all over the place, because people are forced to those two extremes, either the illiquid, I'm going to hold it where there's no mark to market and not have to take a view over that 6 to 12 month horizon, or, they're pushed over into that passive world. I want to make sure everybody sees why. If you're an active person trying to hold one of these

widow maker type positions, you're going to get ran over by a freight train, because the guy that's trading the Nvidia where all the passive momentum is, makes 26% or whatever it ends up being this year holding that position, you waited six months for this thing to close on natural gas. You're going to be left in the cold. And as a result, the people who would normally trade that get forced into the other trade. So I think, there's absolutely a fantastic opportunity in those types of arbitrage opportunities that just seem to make a lot of economic sense, but the ability for particularly institutional investors to hold these positions is extremely difficult, given that passive structure of the market, hence these anomalies we started the discussion with.

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Erik: Jeff, I've got a question I've really been looking forward to asking you specifically, which is, I'll call it the Green versus Brown debate. For, let's say, the height of the Biden administration, ESG was king, everything that had to do with, I don't want to say just green energy, but green policy energy, and all the trades associated with it, is what would win. And I would say that it was not the most intelligent energy policy trades. It was what matched government policy around ESG that was winning. Feels to me like post the Trump election, we're seeing a seismic shift in energy trading, away from that ESG fascination, maybe back to what I'll call the old brown sentiment of what actually delivers the energy for the lowest price.

Jeff: I think that that transition occurred a couple years ago. But I'm going to go to a broader point here I like to make, that underscores that, despite the fact that Trump controls the House, the Senate and the Supreme Court, he's still beholden to bond markets and the laws of physics. And if we go back to the Trump 1.0 and we look at what happened to green investment and brown investment, from contrary to what a lot of people think, the world got a lot greener under Trump 1.0 than it did under Biden. Why? During Trump 1.0, we had extremely low interest rates and very low oil prices, so we saw very little brown investment and lots of green investment. Because, think about green investments like solar and wind are all a function of leverage, because they're low risk, highly levered plays. And as a result, we saw a substantial investment in green and not very much in brown. Then we fast forward to the Biden administration, what was characterized by? High interest rates and high oil prices. Biden saw over the largest increase in brown investment, US production is 20 when you put in the NGLS. By way, it's 13 with the black oil. Add in 7 for the natural gas liquid, you get it to 20 million barrels per day, largest oil producer in the world, bigger than Saudi Arabia and Russia actually combined. The two of them combined, the US is bigger, I think, which just underscores just how large of a brown producer the United States has become. So, the point being here is, these macro variables in the bond market and the oil price being the really big ones, were a much bigger driver of how green or how brown the economy was than the underlying policies. And let's just be clear about the policies of this current administration, and you listen to Chris Wright, the most, like the potential US Energy Secretary. It's more about energy dominance than it is green or brown. And when we look at what they'll likely do, they're going to repeal the mandates in the regulatory red tape around getting energy investment. By the way, it's not just brown, it'll be green investment as well. So, they'll speed up both types. And if you just listen to the rhetoric, it's about pushing out as much energy as they possibly can, energy dominance, as opposed to brown or green. Let's go back to US as we put in the crude and products, it's pretty close to

being where Saudi Arabia is, overtaking Saudi Arabia of everything, in terms of what's being exported.

One last point I want to talk about is, what is driving this investment? Again, I'm going to say, is it environmental policy or is it energy security? I want to line up all three major regions of the world, US, Europe and China. And when we look at transition rates, who has transitioned out of brown and into green? The speed China's number one, it's gone faster than anybody else. Number two is Europe, even though, on a level, Europe is higher than China, but China's has gone way past the United States, is heading up towards Europe, moving faster than anybody else. The US, when you look at all that oil production, is flat to gone backwards against demand. It's gone up a tiny bit. This is my point, that under Biden, the world got browner in the US. Why did it get greener in China? I'm going to say more renewable focus, because they actually, in China, they added more coal to fire those EVs, so it's not greener, but more renewable focus. Reason why is energy security. Electrons are local. Molecules are global. In fact, the whole world of globalization was kicked off by the British when they put coal on ships back in 1870, that's when the first globalization occurred, because it's basically portable and storable muscle, it's mobile muscle. That's what carbon is. And when you move to electrons, it's all local, and the sun shines everywhere. And so why is China investing so much in renewables and all of this green CapEx stuff is because, it's doing so because it can be in a position to be self-sufficient. That's why Europe's doing it. So I like to go back to the point, is it energy security that's driving it, or is it environmental policy? I'm going to argue it's energy security.

Erik: Jeff, you mentioned copper, and you also mentioned buy-and-hold positions. I have to admit, I'm one of the many people who's been in a buy-and-hold. Actually, it's a roll-forward on copper futures contracts. I kind of thought that regardless of whether you were green or brown, that the argument for copper was very strong. Now, certainly the part of the reason we've seen the weakness in copper recently has to do with Trump being elected and the ESG focus coming out of the market. Is that played out? Is it time to stay long copper and hopefully this is the bottom? Pr are we just seeing the beginning of a new price regime where maybe we're not going to have that premium on energy transition and expectations about electrification of vehicles and so forth that existed under the previous administration?

Jeff: I'm an advocate, we're going to have to go forward with electrification. Let's go back to the energy security. I mean, why are hybrids, they got a lot of copper in a hybrid, and they've got oil in them, they got everything. And so as hybrids become the dominant source going forward, it's not as much of oil demand before, but it's a lot more bullish than what the market had tried to price in longer term. And it may not be as bullish copper as a pure BEV strategy, but you still need to have the electricity inside that, all the wiring inside of those cars. But why are people choosing the hybrid? It goes back to energy security. I don't have range anxiety. I still get to plug it in. I still can utilize electricity. I still can utilize oil and gas. I still have my options available. And I think that's the world we're going into which electricity and electrification of everything will play a very vital role.
And the other thing I want to point out about China making all of this investment in green CapEx goods. You know, electrifying everything is the marginal cost of renewables. And yes, it's more

expensive trying to get onto the grid if they ever pull it off. And the Europeans go past that Rubicon, the US would be in a very precarious situation by not making the investments in the electrification of everything, because they'll end up with a lower long-term cost on a variable basis, the upfronts. And I think this is what people point, oh, the upfront costs are huge. I'm not going to deny that, but the variable costs, and I don't think anybody listening to this can deny it, they're really low. So, and you think about things like the railroads in the US, there's many examples of large scale investments that were super inefficient, were super expensive to make, but once you went past that Rubicon, you were in an entirely different world. And again, from an energy security perspective, you got to keep your eye on this electrification. And I think that's going back to my point. It's energy security, not environmentalism, that's going to drive a lot of this investment going forward, and it's still going to be an important part of the energy mix. So I'm still a big believer on the copper story. And again, let's go back to the copper story. It was not only a demand side story, but it was also a supply side story. And so when we look at the growth in supply over the last 12 months in 2024, it came from refined copper, not from mine copper. We have that under-investment thesis playing out in mined copper. The only reason we're keeping production levels up is through scrap and through de-stocking of concentrate, pushing it into the refined market. And the longer term lack of investment and mining is going to buy it. That is the core of our revenge of the old economy thesis. And I still think it's very much alive and kicking.

Erik: Jeff, I hear you on the copper argument being very strong. I agree, long term, it's got to be strong, because we really do need to electrify the economy, regardless of who's in power politically. But hang on a second, in terms of our investments and trades, Northvolt, which is a big battery manufacturer in Europe, as far as I could tell, just went unexpectedly bankrupt over the weekend. Surprised a lot of people, it seems like at least in the short term, there's going to be a bumpy road for anything that may have been a green investment before. Am I reading that right? And what happened with Northvolt?

Jeff: You are reading it right. And I think it's industrial policy and the problems that are associated with it. When we look at industrial policy, and that's ultimately what the Europeans are doing and trying to stimulate the investment in green CapEx goods like batteries. When we think about where industrial policy really works is when you're doing a catch up to existing technologies, or you're trying to win a war like the Second World War. With it, with the US, industrial policy works, fantastic. Now, the problem with the green CapEx and with these batteries, I don't know the specifics of it, is that with the batteries, you're dealing with technological unknowns. And I think that's the one thing about BEVs, why the demand is for the hybrids is because, we know the technology works, and you don't have range anxiety and other things. The problem with the BEVs is, still, there's a lot of technological unknowns there, I don't know the details, but probably there. There’s some issues around the technological unknowns. So industrial policy does not do that well when you have technological unknowns. Again. my point was, it works great in catch ups, but not the technological unknowns. And I think that when we think about economics and the Adam Smith's Invisible Hand allocating capital here, the problem is, what Europe is trying to do is the visible foot versus the invisible hand, and this creates malinvestment. And whether it's mistiming of solar farms in places like Spain, where you

get negative power prices, which, by the way, from a trading perspective, are phenomenal. We will resolve those negative power prices through battery investments and things like that. And it's a great opportunity, but it has timing issues. And we use the term malinvestment, that's what we mean by malinvestment is timing issues or a miscalculation on technology. And I think, as you said, this is just part of the process, you're undulating up and down and trying to time all this and against a very uncertain backdrop. But what that means is opportunities that will be created by pockets of capital that is allocated at different points of time. So, the read on the malinvestment here, which is probably closer to it. But I think the bigger read I take from it is really the limits of industrial policy and subsidies. They work great when it's a known catch-up on technology or a known goal, like winning a war, but when it goes to technological uncertainty, like we're dealing with the green transition, it does have limits.

Erik: Jeff, final topic, I want to talk about nuclear energy under Chris Wright, assuming that his appointment is successful in the new Trump administration. I see this is a major, major shift, in the sense that, look, Jennifer Granholm, despite having frankly done a very good job, in very recent history of advocating some appropriate nuclear policies, she's never had a clue personally, what she's talking about. Somebody is handing her her lines. She was famously ambushed by a reporter saying, so does the US consume 2 million or 20 million or 200 million barrels, and is that a day or a year, and she had no idea, so she's out of touch. On the other hand, Chris Wright sits on the board of Oklo, which is not just a nuclear technology company, but it's an advanced generation for sodium cooled fast neutron spectrum high tech energy company that really is on the leading edge of the right kind of nuclear technology. What I can't decide is, does that even matter in these policy making positions? I mean, even Jennifer, who didn't really have any idea what she was talking about, went from dumb nuclear policies to excellent nuclear policies late in her tenure in the Biden administration, because somebody changed what was on the teleprompter she was reading. How much difference is it going to make to have somebody who actually knows what the teleprompter says?

Jeff: I have to say, everything I've heard him say, after the appointment last week, and I started listening to some of people were sending me of YouTube of his presentations. He is extremely knowledgeable of the industry from everything from green to brown, and I didn't see anything he said that was factually untrue. And by the way, he doesn't wade into the climate doubter arguments. He's smart enough to stay very far away from that. But I think the one thing it goes back to, that point I was saying before, energy dominance. And I think that that's going to be the policy of the United States. One theory about how could the Trump administration be in the Ukrainian war? They draw the line where the existing lines are in Ukraine, and they tell the Russians, either you accept this or we're going to hit you with secondary sanctions. Tell the Europeans you're going to accept this and you're going to take US energy, or we're just going to pull back out. They got leverage on both sides, and a lot of it comes from the energy dominance. Actually, it's dollar dominance and energy dominance that allows them to give them that. Because they got the dollar dominance, they can hit them with the secondary sanctions. And the energy dominance, they could hit them with using energy from the US. But I think bringing it back to your point about nuclear energy is, if you're going to be dominant in energy, nuclear has to be an absolute part of this. And I think a couple of things to keep in mind, which

is why the previous administration was successful in the nuclear polls. They recognized that the resiliency, or the fact that nuclear energy is so reliable, a reliable aspect of it, and the importance of it. A data center will lose $7,500 per minute if its power is interrupted. That's a huge sum relative to the price of power. As a result, they're willing to pay enormous sums to have something like nuclear sitting there powering these data centers, so they just simply do not get interrupted. By the way, hydro is way up that list as well. So, there are other green type technologies that fit that bill. But I think the one thing, the US and Canada are in a good place, as actually Chris Wright says in his writings, is that they have the uranium supply. And by the way, Erik, you know this better than anybody, that the uranium supply is a critical point here. Europe's going to have those problems. Again, China is going to have those problems, but the US in particular, is in a pretty good position. So, I would definitely think that as we look forward with this next administration, they're going to be in a very good position across the energy spectrum. And I would be surprised if that nuclear power is not part of that energy dominant strategy, but it's part of the mix. I'm going to go back to what car is in demand right now. It's the hybrid car. Why is the hybrid car in demand? It has no range anxiety. I mean, the world could run out of oil, you're okay. The world could run out of uranium, you're okay. It could run out of anything, you're okay. And you listen to Chris Wright, I think it was this numbers, he came up with numbers. You know, it can't go over 25%, I don't know, but he's rational about how far you can take the nuke story, and I think it just goes back to having a balanced portfolio approach. Let's go back to the basic finances. You know, having a well-balanced portfolio is the safest bet, and I think it applies to energy, and nuclear is part of that balanced portfolio.

Erik: Jeff, I can't resist editorializing a little bit here on this point, which is that, boy, all of these fast sodium reactor guys, and I think Oklo is definitely in this camp, are, in my opinion, all being influenced by a set of beliefs that's widespread across the nuclear industry, which is, people think you can't make a thermal spectrum breeder reactor. They know that you ultimately need to get to breeder reactors in order to really have energy dominance, that's at least 10 or 15 years away. People like Chris Wright understand that, but I think they misunderstand it. And I think that China doesn't misunderstand it. What China understands, what Alvin Weinberg understood in the 1960s but very few people agreed with him, and what has now been proven only after 2022, when the modeling software that allows simulation of nuclear reactors to be performed in computers, it's only recently been proven that you can build a thermal spectrum breeder reactor, but you can only do it with thorium, not uranium. And I think a lot of people are misunderstanding China's nuclear policy. They think they're focusing on thorium because they don't have the uranium deposits and they do have the thorium deposits. That's not it. China is just a whole lot smarter about nuclear energy policy than the US and everybody else is. So Chris Wright, if you're listening, I'd love to talk your ear off about why China is going to steamroll the US with a much better energy strategy than the US has, because they understand the economics of thorium nuclear energy better than companies like Oklo and the United States do. Couldn't help that, Jeff, any opinion on fast breeder reactors and thermal spectrum thorium reactors before we go?

Jeff: You know this better than I do, Erik, because we don't, we can't trade thorium. So, I'm stuck in the old world.

Erik: Let's touch on uranium prices before we close this interview then, because this is one that's baffling a lot of people that, look at what's happening with this nuclear renaissance, the news is off the charts this morning, Monday morning, I'm looking at SMR, that's NuScale energy, which traded as low as $2 earlier this year, $32 in change. So that's what, 16x in a year. That's how much the nuclear stocks are taking off. Well, meanwhile, the spot price of uranium is flat, even as all the analysts who are credible, in my opinion, are saying, there's just no way we can ramp up the uranium demand as fast as this triple Nuclear Energy Initiative is going to happen. It doesn't make sense. But the bottom line, Jeff, is spot uranium is flat. It's not moving. Why not?

Jeff: Because the fundamental story is still years away, and I think we got to remember commodities are spot assets. Financial markets are anticipatory assets. Commodities have to price the supply and demand of today. Financial markets get the luxury of pricing tomorrow's supply and demand, and that's why you see that the share price is moving in the commodity knot. And I think when we look at the picture, it's going to take a while before you get there, but I want to give you an example. And I think everybody should have learned their lesson. What happens if a commodity market moves too soon, cobalt and lithium, I don't know if you know, Erik, you probably have some idea where cobalt and lithium are today. They're in extraordinary low levels right now. Part of that has to do with the market. Got super excited back in 2017 when everybody started talking about EVs and ESG and they bought up stockpiles of cobalt and lithium before the fundamentals got tight, and as a result, the high prices incentivized a lot of investment. And so here we are. It's 2024 and you have all that investment in EVs, the fundamental story is playing out. However, in that seven-year time period, the world invested a lot in the supply of cobalt and lithium. So what that's telling you this time around, that uranium price is not moving. We're not going to get the investment, and we'll see that tight market, by the way, that's the reason why I argue you're not going to see the bear market in oil. You try to price it in before it happened. And I think the key message here, particularly in uranium or oil, or lithium or cobalt, you can't price in the fundamentals of a commodity market before they actually happen. So I don't view it as being a surprise uranium hasn't moved.

Erik: Well, Jeff, I can't thank you enough for a terrific interview. Before we close, any final points that you want to share with our audience?

Jeff: Let's just go where you started this discussion. You know, the world seems incredibly anomalous right now, and I think it's an indication that the marginal buyers and sellers and the marginal markets are changing everywhere. Whether if it's energy, LNG is your marginal molecule pricing and inflation expectations today. We look at the marginal buyer of equities in the public market, it is the passive investor, by the way, that argues that the active investor is going to be moving to the private space. So it's no wonder, somebody like myself, who was a fundamental analyst, sitting in the public space, is now sitting in the private space. And I think that the opportunity set in private markets going forward for active investors is going to be tremendous. And these are these big shifts that are taking place, and I think they're going to continue to gain momentum. But my main message to everybody is start thinking holistically,

looking around you, and go, where is that marginal buyer? Where is that marginal seller? Because I think that explains a lot of these anomalous pricing dynamics that we're seeing right now. So interesting times we're living in.

Erik: Indeed, they are. Jeff, we look forward to getting you back in a few months for another update. Listeners, we are working on our year-end holiday specials, where we will explain what these thermal spectrum breeder reactors are and how they're different from fast sodium reactors, and what companies like Oklo and others do. So, if I lost you on that point, forgive me, but I promise that we'll clarify it before the year is out. Patrick Ceresna and I will be back as MacroVoices continues right here at macrovoices.com.