



MACRO Voices
with hedge fund manager Erik Townsend

Adam Rozenchwajg: Understanding the Global Energy Crisis

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Erik: Joining me now is Adam Rozenchwajg. Managing partner for [Goehring & Rozenchwajg Associates](#). Adam wrote a terrific research piece back in May that really captured my attention. Listeners, you'll find a download link in your research roundup email for that piece, I strongly encourage you to read it as it really is going to provide a lot of excellent background for today's interview. Adam, I want to start with the big picture here. I think we have a dual crisis facing the world both an energy crisis, which I've been paying a huge amount of attention to. I don't know as much about the agriculture and food crisis and the fertilizer issues. I know that your firm has done a lot of research on that. But the feedback I get consistently from everybody is look Erik, these are just, you know, manifestations of the war between Russia and Ukraine. As soon as that blows over, it'll all be done with. That's not what your research reveals is it? Tell us the backstory on this. How do we get to a point where all the sudden the world seems to be facing energy and food crises?

Adam: Yeah, well first of all, thanks for having me this afternoon. I completely agree! This is this is not a Russia and Ukraine crisis. Although the situation there is certainly making things more complicated and making things tighter. But we first wrote on the verge of an energy crisis back in the summer of 2020. And you'll recall that that oil prices had been negative in April 2020. You know minus \$47 a barrel, and they were still bouncing along, you know, very decade low levels. We had shut in wells all across the country. And so in a lot of ways, it was a strange time to write an essay called on the verge of an energy crisis. But what we saw, and what we continue to see is a market that was slipping into deficit, and that deficit was getting worse and worse and worse. So fast forward, and we can talk about the reasons why, but fast forward to the beginning of 2022. And when Putin invaded the Ukraine, so many investors and market watchers really were caught off guard, and they said, we just really couldn't have seen this coming. And I think nothing could be further from the truth. You know, this was a train wreck happening in slow motion. For two years now, inventories around the world have been declining, which means that demand has been running ahead of supply. Energy prices have been moving higher, energy stocks have shown leadership. And yet, we've seen no capital response, no money has been put back into the ground in any of the extractive industries really. And that's just been ratcheting this market tighter and tighter and tighter. And now it has reached its boiling point.

So a lot of people, like I said, consider this to be completely out of left field. But the fundamentals here have been setting up for a long, long time. We cut spending on oil and gas, into the pandemic, we cut it 75-80%. We're still substantially below the 2019 spending levels, which in and of themselves were not enough to maintain flat production. All of the growth in the last decade has come from the shales. You know, there's been no growth in the rest of the non OPEC world. And there's really been no net growth in the OPEC world either. So all the supply growth in the last decade has come from the shales, we have blindly believed that those shales can grow infinitely. And I understand why, they were fantastic new sources of supply, bringing on the shales in the 2010s was the most important development in the oil business since the super giant fields of guar were brought online in Saudi Arabia 70 years ago. But even the biggest oil field is not infinite. And we've reached the point now where those fields are showing their age, they're beginning to exhibit depletion. And we just have neglected this industry so terribly for almost 10 years now, that that we really just don't have anything in the way of capacity ready to backfill depletion in the shales. So that was true in 2020-2021, the market was just getting tighter and tighter and tighter and tighter. And then you have a black swan event, something that no one was able to predict. And now we've just tightened the market dramatically more, but this is not a Russia story. And these problems will persist for years to come now.

Erik: Adam, we are in strong agreement, but I think as a journalist here I have to play devil's advocate and take the other side, which is you know, a detractor might say hey, wait a minute. Ever since the beginning of June, the flat price of crude oil has sold off dramatically from \$124 down to we got down to \$90 handle. We're bouncing off of that. It looked like just overnight last night we were finally breaking that downward sloping trendline and sure enough, it looked like maybe the market was bottoming and starting to turned back up again. The White House came out today on the day that we're speaking which is Tuesday, a couple of days before this podcast will be released to listeners. The White House announced another 20 million barrels would be sold from the Strategic Petroleum Reserve for the purpose of trying to game gas prices lower. So it seems like in the eyes of some observers, like look, the White House has been using SPR sales to get the prices back down. They're going to keep doing that, the war ought to be ending that should take some of the pressure off by the time they stop. So what do you guys so worried about and I know that the thing that I cite is even in this flat price sell off, we've seen a tightening in the form of backwardation in the WTI term structure where the time spreads were actually increasing on some of the days that we saw the biggest sell offs in flat price, which I think is unprecedented. That's the reason that I see this as despite the fact that recession maybe is going to take care of some demand destruction to take the pressure off. In the short term, I still think that much longer term, we're at the beginning of an energy crisis that will last many years. My reason is mostly focused on that backwardation. How do you see it and what leads you to the conclusion that this problem is not going away?

Adam: Yeah so look, I do think we are in agreement. And I think we're in agreement for a lot of the same reasons. I'll maybe add some of the points that you mentioned here. You know, the backwardation points to a very tight market. And I agree with that 100%. I think ultimately, what's causing this tight market is the fact that we've dramatically under invested in the oil and

gas industry. And there's two reasons for that. One is why that happened in the first place and the second is why it's lasted as long as it has. So one of the reasons why we've invested so little is because commodities are cyclical. And they go through periods of time where they're expensive, and companies earn really high rates of return and money's attracted in and that money ultimately gets put to work. And that sets up for too much supply and a big bear market. And we had that, 2010-2011 you know, in the decade before that everyone was talking about peak oil supply and Hubbard's curves and things of that nature, including us, there's a very real sense that the supply was becoming unsustainably tight. A lot of crude prices rallied, a lot of companies were able to raise a lot of money. And that probably was going to set up for a bear market regardless. But one thing happened that was even more dramatic was that, you know, that money got put to work. And it discovered, discovered is not the right word because we always knew the shales were there but figured out a way to liberate the oil from the shales. So not only was this going to be a regular cycle, but the cycle is probably going to be more pronounced than normal cycles because the efficiency of that money that was put to work, last cycle was really, really high. We found a great new field. That doesn't always happen, , sometimes we do sometimes we don't, and sometimes the quality of those reserves are more middling. But this was a real doozy of a new set of fields, really three fields on the oil side. The Bakken, the Eagle Ford, and the Permian. So that set up for a pretty bad bear market. And then ESG concerns and ESG pressures meant that when the market did finally tighten, when we did work off that over supply, and when we ended up in a situation of pretty clear and demonstrable deficit. Normally capital would start to come back in, but we've not allowed it to do so because of ESG pressures. And even today, you have very, very little, in fact, I think no energy IPOs or secondaries or bond issuances. There's no capital being raised into the space. And you'd say well fine, but aren't they making all this cash flow, but they're returning all that cash flow hand over fist.

So to me, that's the real crux of why we're in this energy crisis. And it will ultimately be alleviated only once that money gets put back to work. So how to address the concerns of the bears who think that, look, perhaps prices are coming off and we're going to have a recession and perhaps things can resolve themselves in the Ukraine. And what I would say is that, you have to be very careful when you read the tape and try to infer fundamental developments from price actions. And in the oil market, we have this hyper financialized oil market where the paper trades are multiples of the physical market. And people have been putting on a recession basket now for the last three-four weeks. And we've seen that across the board. If you look at the sectors that did really badly in the summer of 2008, they're the same sectors that did really badly in the summer of 2022. You know, materials, energy, financials, and industrials despite the fact that the markets really different today than it was in 2008. But I think you're seeing this knee jerk reaction where traders are saying, look get me what worked in the last recession, get me what sold off in the last recession, I should say and let's put that on. You know, despite the fact that the financial system today... the banks anyway as part of the financial system are much less impaired than they were in 2008. And energy is 4% of the S&P and it was 16% of the S&P in 2008. Really, really expensive. So you know, the markets really different, but people are kind of putting on that same trade. And I think that's working its way into the oil markets as well, since you do have so many equity-like products that are tied to oil prices and things of that nature. But

you're absolutely right! We saw the oil price sell off at the same time as the term structure tightened and the backwardation increased. People are saying that's unprecedented. I've gotten to look back, I can't find an example of that having happened in the past. So we're looking back farther now. But yeah, as far as we can tell, that is pretty unprecedented.

And, as far as the SPR goes, so basically what I guess what I'm saying is, you have a spot price that's selling off, but you have an underlying physical market that's screaming for telling you how tight it is. And to me, I would believe that physical indication more than I would believe the spot price, which can be certainly I don't want to say manipulated, but can be certainly overwhelmed by paper traders that are just trying to put on an algorithmic basket of whatever worked in 2008. You know, as far as the SPR goes, clearly the SPR release has never worked in the history of the SPR. It's been done, a handful of times not to this extent. And it's always resulted in higher oil prices down the road. I don't think it causes higher oil prices but I think there's a coincident where SPR releases occur when the market is super super tight. And they ultimately can't take the oil price down on any type of a sustained basis. So maybe you get a trade down when those things are announced. And then six weeks later, oil prices are higher. And this is clearly a case of that too but one thing that I would tell you that I think is really scary as we go into the second half of this year is that the first half of every year, we tend to build inventories and the second half of each year we draw them down. And this year, we didn't build inventories in the first half, despite the fact that we've had an unprecedented record setting sustained release from the SPR. We have become addicted to this SPR, million and a half barrels coming out. And it's just clearly not sustainable. And so as we go into the second half, the White House is announcing another 20 million barrels are saying that's it. In any event, we're gonna start to get quite low on the SPR probably come the third and fourth quarter if we continue at this pace. And so what's going to happen to the oil markets when that million and a half barrels on a global basis that we've become completely addicted to that has been absorbed into the system through strong demand and faltering supply. What happens when that pulls back and I think that that's where you could really see, a spike to \$200 oil is not out of the question in the second half of this year.

So, I think that that that's a really kind of sobering thought here. It's never been able to work in terms of being able to sustainably depress prices. And quite frankly, it's exactly the wrong thing that the market needs. If you agree that the energy situation we find ourselves in is because we've under invested in the energy industry for the last 10 years, what you should be doing as an administration is encouraging policies that will help supply whereas everything we've seen thus far has effectively been policies to help the consumer, which is exactly the wrong thing to do right? All that does is help to stoke demand. You know releasing barrels from the SPR, talking about reducing tax on gasoline to help the consumer and then threatening to shut down crude exports, which would be a disaster, because it would effectively decrease the efficiency of the refining system. US refiners are not really set up to process US crude. All these things don't do anything for the oil companies. And what you need to do is show a little bit of change in sentiment, solidarity, and support for the E&P industry and say look, we understand, you guys need to put money to work and this negative rhetoric that we've been having for the last 10 years, we'll stop.

And one other thing that I just kind of mentioned about the SPR, which is interesting, all these crack spreads are the spread between the price of refined product and the price of crude oil have been extremely high record setting highs and at times gasoline and diesel has traded at the implied value of you know, \$200 a barrel plus and people talk about that sort of anomaly. But we've began to wonder here if those prices aren't really the right prices. You know, there's no SPR for diesel, there's no SPR for gasoline. So here you have a market that should be trading maybe at \$200 a barrel oil and you're depressing the oil side of that equation with these releases from the SPR. You know, could that be what's happening here, again, a really, really sobering thought. So I think all told we're set up for a very, very, very tight second half of this year and one that is going to be dangerously tight.

Erik: When it comes to an outlook for oil prices in the second half of the year, I have to be honest and say, I don't know which way it's going to move next, because although I couldn't agree with you more that we've got a really serious problem. It's also true that commodity markets can't be forward looking like the stock market is. We can't really talk about what ought to happen next year, and how that's going to affect the price today, because we have to balance supply and demand in the moment right here and now. So if this recession is really deep and bad, which I think it could be. That could result in enough demand destruction that takes the price of oil down another 20 bucks for all we know, but I'm gonna make this argument Adam. I contend that we've already reached a point where it is not possible for the global economy to return to its pre-pandemic condition. Because my contention is, if we got back to pre-pandemic demand, there simply is not enough supply to meet that demand. It doesn't exist, the investment hasn't been made. And that means we're stuck. We're in this kind of zombie economy where even if we get through the economic cyclical factors that have led us into what looks like a very serious, oncoming recession, even when that recession ought to be ending, I think we stay stuck in it because as soon as demand starts to recover, energy prices go through the roof to the point where they cripple the economy and prevent recovery from that recession. And I think it potentially has the ingredients to turn a recession into a much longer lasting depression, because you can't get out of it due to energy crisis. Am I crazy to think that and is there any reason to maybe see another side of that story that I'm missing?

Adam: Well, look, I do think that energy is central to the economy. And that shouldn't be a controversial statement, but I think it has been for a long time. But to me, all economic activity is a transformation of energy from one form to the other. And it stands to reason that you should have a fairly robust, stable, available, reliable, and ideally inexpensive energy supply to be able to fuel that. And so yeah, I do agree that that's going to be an impediment here going forward. One thing that I would point out, if you actually look from an investment perspective, and from an investor's perspective, some of the best times to be involved in the resource markets and even in the oil markets have been during periods of time that have been historically associated with really poor economic growth. And the most notable example, that would have been if you looked at oil prices, rather oil stock prices from 1929, on the verge of the Great Depression, and the stock market collapse, through to the end of the 30s, a basket of oil stocks was actually slightly positive over that period of time. And if you did a commodities stock producer basket

with quarter gold, a quarter energy, a quarter base metals and a quarter ag, you know, I think you were up 85-90% over that 10 years. The stock market was down 50%. And why is that? Well commodities were really, really cheap going into that period. Capital had been starved in the extractive industries throughout the 1920s. And so you had a situation where high commodity prices effectively, you know, were able to drive stock prices, despite the fact that this very poor economic macroeconomic backdrop.

The same thing in the 1970s, the 1970s is not considered to be a period of robust economic activity although the numbers are better than I think is commonly perceived. But nevertheless, you're not a period of strong economic activity nonetheless. And yet commodity stocks and oil prices did extremely well. It was the only place to hide. Again, it's because we didn't invest in the industry in the 1950s and in the 1960s. And then in the last 10 years, we've had all this malinvestment across the board. But in the energy space, we've had a huge amount of malinvestment, going into things like wind and solar, and decommissioning fossil fuel plants and decommissioning nuclear plants, which is the dumbest thing we ever could have done. And we were able to do that because we have this backdrop of cheap, abundant, reliable energy. And I think that people understand that cheap capital can result in malinvestment of dollars, but they don't understand quite in the same way cheap energy can result in the malinvestment of energy and that's exactly what we've had. The last decade has seen a huge proliferation of energy technologies that themselves are very energy intensive. Wind and solar is hugely energy intensive, and hugely capital intensive. So cheap capital, cheap energy, and what do you have, windmills and solar farms. I don't think there's any coincidence to that. So we're in a period now where we don't have that anymore. We don't have all that cheap energy. And I think a lot of the playbook for the last decade or 20 or 30 years has to be reconsidered because we just don't have this resource base that we did in the past. And people get that with the supply chain, which a lot of ways is a lot more complex. You know, post-COVID, people realize we've whittled down the supply chain so much that it's unsustainable. We'll probably have to restock it, but nobody realizes that we've whittled down, our resources by not investing in them in the last 20 years. And those are going to have to be rebuilt as well. So I think it argues for you know, a decade of high prices that need to attract capital, normalize asset values for real assets relative to financial assets, and ultimately get that money spent in the ground again.

Erik: Adam, I could talk to you for hours and hours about crude oil, because it's what I trade and what I know about. But our listeners have heard quite a bit of that from me already. And you've done some terrific research in the natural gas market, which I don't trade and don't have as much knowledge of. Please, let's start with the big picture of why is it that historically natural gas in the United States has been much cheaper than in Europe? Why was that true and more importantly, why do you think it's about to change?

Adam: Sure. And that never was true going back 20 plus years ago. Natural gas prices were expensive. Gas was dear in the US as well. And probably culminating with Jimmy Carter asking everyone to turn down their thermostats and things like that. So there's a wide held belief that natural gas in the US, we're running out of natural gas and in fact, the first LNG facilities in the US and I was actually at the ribbon cutting of the first one, which was the Cheniere facility just

outside of Houston was actually commissioned to be a LNG import terminal because there's a very widely held view that we were running out of gas and we were. We were running out of conventional gas. And then what happened was the US unlocked the shales and again basically doubled US gas production in a period of five or six years after having steadily declined over a period of decades. And you cannot overstate how important the shales were. The Marcellus in and of itself, one of the most important hydrocarbon basin discoveries in the last 50-60 years. The Permian Basin as well. The Eagle Ford as well. You put them all together, all in the span of 10 years, the most transformative moment in the history of energy that we've really had. And that depressed US prices and natural gas unlike oil or coal is really difficult to transport. You can't move it around because it's a gas. So you have to super cool it until it's a liquid. It's very expensive, it requires a lot of special equipment and very large equipment, large capital expenditures. It is really kind of realm of the super major. And so that LNG was always a bottleneck and it created these pockets, or these islands of natural gas where the market would be totally dislocated and the US was a perfect example of that.

So, throughout the 2010s, you could see gas prices and the rest of the world at 12, 15, 16 bucks and you know, two bucks in the US. And more recently, last winter or going into last winter, gas prices spiked to be \$30 to \$45 and the rest of the world and we're as low as four bucks in the United States. And again, just to really kind of put the whole gas market into perspective, which I think is a wild statistic, with the exception of oil trading negative natural gas at \$1.91, which is basically in real terms, the cheapest molecule of energy in human history. And that was done in 2020 during COVID. And then by 2021, we had \$50 in MCF which on an energy equivalent is like \$350 oil, which is the most expensive molecule of energy in human history inside of 18 months. So, when people say, oh is what's happening really a big deal? I mean, yeah, this is a big deal what's happening here today, and people I don't think fully appreciate it. So even today, as we speak, natural gas prices in the US have rallied, but they're like \$9, here today. \$8.99 which is high even in this cycle here. They were as low as \$5.50 kind of two weeks ago. And in the rest of the world, they're still sort of \$35. So how can you have this huge arbitrage? Well, we export a lot of gas. We are actually the world's largest gas exporter now having gone from an importer to the world's largest exporter in less than 10 years, but we still basically produce more than we export and so we still have excess supply in the US. There's still a bottleneck of export capacity. And so what we wrote about as we said, look, what I think people are missing here is that natural gas can really move, we've seen that in the past. It's a commodity that's really priced on the marginal unit of supply and so it can really swing in a hurry. And what people don't appreciate, and this was you know back in March and April when he wrote this. Gas was between \$4 and \$5. It could be 40 before anyone knows it. It can just happen really, really fast. And the reason for that is that if you get any excess spare capacity on any of those LNG terminals, arbitrage theory tells you that you should lock the US price into the world price and it was that asymmetry that was really interesting for us. Could gas price trade down? Yeah, it totally could. You know, the gas industry hasn't made money in a long time. It could drift lower, but it could go up tenfold potentially in a period of weeks really. And people thought that that was sort of outlandish but by the time we actually published the essay, gas had already doubled. Gone from four to eight on its way basically to \$9.32 is the high back in June.

Now the next question would be, why would we have excess LNG spare capacity? Well, one reason could be that we build more, although that I think is unlikely in the near term, we do have some new capacity coming online, but nothing imminently more in the next kind of 12 to 18 months. So that could do it. The other thing, of course, could be if supply began to falter. And so that led us to then say, well, what are the supply trends in US natural gas. And what we came away with was quite fascinating. Number one was that there was very little if any research being written on it. So if you look at the sell side community, the Wall Street analysts or even the energy analysts, no one was talking about could the shales actually begin to peter out. Everyone was just under the impression that the shales would go on growing forever. So that was number one, just no one was even looking at this, which is always a good sign. And number two is that actually, when you look at the Marcellus, which has been basically 100% of the growth in the last couple of years, it hasn't really grown in the last 12 months. You're kind of flat production there year on year. And so, everyone thinks that the shales, and notably the Marcellus are just the sort of mighty Marcellus can keep on going forever. But there's a lot of reason to think that perhaps it's beginning to show early signs of depletion. If that happens, then forget it, if you start to actually roll Marcellus production over without any new shale basin, and by the way, there's no new shale basins that are kind of waiting in the wings here to backfill that. You could in a hurry have some spare capacity on those LNG terminals and then all of a sudden, you could lock the US price in with the world price, kind of overnight so to speak. And to us, that's what made that investment really, really attractive.

So we wrote this big essay, we position the portfolio accordingly. We've been early to the gas market, we've been involved all the way since the fourth quarter of last year. And so, we've been enjoying that move. And then no sooner did we write all that, then the Freeport LNG facility down in Texas caught on fire and had to be shut down. And that's a two BCF a day LNG export terminal. It is about 20% of US gas exports and it was unclear how long it was going to be down for. The preliminary indications that are to be down for two weeks so 14 days two B's a day, you're talking about 28 BCF of backed up gas that was expecting to get out of the US that couldn't get out of the US, right. And so when you look on the inventory side of things. Inventories were at a you know, 350-360 billion cubic foot deficit relative to average for this time of the year. And so two weeks, 2 Bs a day that wasn't really going to move the needle too much. But very quickly, it was concluded that it would likely be offline for 100 to 150 days. So now if you're talking 150 days times two BCF per day. 300 Bs, you could start to repair a lot of that inventory situation, and actually have sort of dodged a bullet, if you will. Now, the gas names had sold off, so we didn't really lighten any of them. But we were watching it very closely and a funny thing started to happen. Inventories in the US, you should expect that they would begin to build now that you have two BCF a day less of export demand, they haven't. And the deficit relative to average has actually gotten worse. And I think that's because demand has been very, very, very strong. At the same time, as supply really hasn't been doing much in terms of growing. So, you've had some warm weather, you would have been in an even tighter situation, I suppose if we had been exporting gas, but you know that that idea of Freeport catching on fire and fixing the world's inventory situation. I don't think that's going to happen this year, because I think all that gas is being consumed.

So here we are today, we're actually at like a nearly 400 BCF deficit relative to normal. So things have actually gotten tighter, despite the fact that freeports offline. So, we continue to be really, really bullish on US natural gas. Again, depending on where your listeners are, if they're American or Canadian, they really don't appreciate how dramatic this is in the rest of the world. The rest of the world, you have gas prices that are between \$30 and \$40. An MCF versus here, you know, seven to nine and hitting nine today. But, the same way that gasoline prices are sort of tabletop conversation in America. Natural gas prices are the subject on everyone's lips in Europe. And you know, we just got back from Germany, the Germans are basically resigned to the fact that they're not going to have electricity this winter. And obviously, Putin, just today is taking down Nord Stream one's volumes down by 80% and continues to play geopolitical games with the gas supply. So this is a really, really dangerous situation for the rest of the world. It's not appreciated here in the US. And these gas names are trading at like one and two times earnings in some cases. So I mean, just really, really, really good value as well.

Erik: Just looking at the natural gas futures contract, it started selling off sharply exactly the same time, that oil started selling off sharply in the beginning of June, as the market began to price in the reality of the oncoming US recession, makes perfect sense sold off hard, just like oil did. But hang on a second, right around the first of July, oil continued to sell off. Nat gas made a U-turn and it's almost actually at one point this morning at the peak, it had I think fully retraced the entire move down since June. We got nothing close to that. We had a tiny little recovery where we broke a trendline just for a few hours. And then Biden announced another SPR draw what's going on with this huge disparity where the both markets sold off almost in unison until the beginning of July. What happened at the beginning of July?

Adam: Well, I think in the US, it's been the inventory situation. And I think that is mostly explained by warmer weather. And so, we do have a heatwave now throughout big parts of the country. And you know, New York has been over 100 for the last couple of days. And that really does begin to crank up gas demand. And so I think that has helped things, but I think it's also the realization, that inventories here in the US are not building, they're just not building it. They're very, very, very stubborn. And from when Freeport went offline, everyone just expected that inventory situation, which was approaching dangerous or on a trajectory towards dangerous to all of a sudden ameliorate and we've had just the opposite. So now we're in the situation not dissimilar from what Europe faced last year where Europe, in May and June, after a really cold winter, coming out of 2020 into 2021. Their gas inventories were really low. And they figured that they could slowly chip away that deficit and rebuild enough inventory throughout the summer, so that they would go into winter 2021-2022 with good ample stocks. And that just didn't happen. It didn't happen, for a variety of reasons. It didn't happen because Russia was also in a situation where they needed to rebuild their inventories. Everyone thinks that Russia kind of turned off the gas last year, they really didn't. They just didn't provide gas over and above what they had agreed to contractual minimums, right? So they had some discretion there. They didn't give them extra gas. We can debate all the geopolitical reasons but a big reason for it that's under appreciated. It's just that Russia was really low in their stockpiles also, because they had a cold winter too. So now all of a sudden, Europe in the middle of last summer said to themselves, well, we're not filling the way we want to. Let's turn to the LNG markets but it turned

out that all that LNG was being sucked and sent to the Asian basin. So that LNG volume that everyone had just expected to be sloshing around wasn't there. And that's when the panic started to set in. So a different set of circumstances here. You know, we're not talking about pipeline gas from Russia coming to the US. That's obviously not a thing. But you know, similar dynamic and so far as inventories were really low at the beginning of the season, I think everyone expected to be able to chip away throughout the summer. Through June, it wasn't entirely clear that that could happen. Then Freeport fire came and said okay, this will be our reprieve. This will allow us to get those inventories filled again, gas sold off, oil sold off as well. Everyone's worried about a recession. And then it's just like, oh my goodness, that's not happening. And here we are now at the end of July, it's going to be very difficult to see how inventories can fix themselves before the end of the injection season and into the withdrawal season. And that's a pretty scary prospect.

Erik: Adam, I want to just challenge a couple of assumptions. I think your arguments are brilliant. But you know, my job is to think about what might be another side of those stories. It seems to me there are a couple of questions that come to my mind on both logistics and on the supply issue. Let's start with the supply issue. Your whole argument is basically, look, there's no more shale basins that are going to be invented out of thin air. We got the ones we've got. That means that there's not a whole lot of supply coming online. And so therefore, as we develop the export capacity to be able to liquefy that US natural gas, put it on ships, and sell it on the global market. Once we get to the point where we can use up the available excess that exists in the US which causes these artificially low US gas prices, you're expecting US and European gas prices to converge, makes perfect sense but hang on a second. A whole lot of shale gas that's produced today is literally wasted. It goes up in smoke because you have shale oil wells which also produce a whole bunch of shale natural gas and for logistic reasons at the time those wells and oil fields were developed, they didn't have a gas pipeline. They didn't have a good way to get the gas out of there. So they flare it off. And if for any listeners who are not familiar with this process, if you've ever seen a picture of an oil field that has these smokestacks, with fire coming out the top of them, it's called a flaring stack, they literally don't know what to do with the natural gas that gets produced as a byproduct of the oil that's being produced. So they burn it up and throw it away. Well, if all of those flaring stacks around the United States are throwing gas away, and all of a sudden, the price quadruples, the way you're predicting, I have no idea what it takes to rework an oilfield and get rid of the flaring stack and install a pipeline. But I would think that price impetus would create a lot of motivation to say, let's stop wasting all of this flared off gas and let's capture it and export it instead. So would that be a source that kind of changes the supply equation? Have you looked at that?

Adam: Yeah absolutely. And flaring of natural gas is obviously a very controversial practice in the US. It emits CO₂ and effectively is wasted. So, it's just CO₂ with no with no discernible work being generated. On the other side, I don't have the numbers right in front of me in terms of how much gas is flared today. But one of the things that I would say is that we don't have a robust oil drilling boom taking place right now, either, right? So, it's not like we're getting all this byproduct gas coming out of the Permian in the way that we had in years past which was a really big issue in keeping gas prices lower for longer, because even when the gas waited E&P companies that

really focused on gas fields were having difficulty making money. You still got new supply coming online from the oil fields that effectively had no marginal cost associated with that gas, because as you said, it was a byproduct. So that's still an issue but it's not the same as it was because we don't have this robust oil drilling boom taking place. But, one thing that I would say where gas is a little bit different than oil on this sort of medium term. You know, gas is an easier molecule to work with, it's easier to flow gas molecules through tight rock than it is oil. Oil molecules are much longer hydrocarbon strands and there's a lot of technical reasons that make them slightly more challenging. And there's also we do have some sources of natural gas that we can tap into, notably, there's a whole section to the Eagle Ford shale which is predominantly thought of as an oil shale that has been left there because it's all gas and has no oil. And so people said, well, gas is so cheap, we don't really want to be involved there. So, there are places that you could go to. Up in Canada, the Montney shale is a very high quality gas weighted shale so there are areas. None of it is going to really kind of save us in the short term. You know, we do have quite a quite a tricky situation here.

Ultimately, I do think that those sources of supply probably will come online, and help to meet strong demand. And you have to be careful when you look at any commodity market. And you look at any commodity market, sort of truthfully as a value investor the way we try to, You know, these markets are cyclical, and so the price response at some point will incentivize development and we will bring on supply and it's very likely we will overshoot the mark. In oil, it's a little trickier to see exactly where that's going to come from, in the sense that I couldn't point to any undeveloped field ready to go and gas, you know, also going to be tricky, but I think you probably do have sources of supply, but none of them are coming online immediately. And none of them are going to stop a bull market from taking place between now and then. So, these are ultimately all cyclical industries. And this cycle, I think, is going to be more pronounced because A, it fell farther because of the shales. And you know, all the supply that that brought on line and then it was held down a lot longer because of ESG pressures. And so that's just going to make for a very very tight market here for some time to come. But eventually, it'll end as well.

Erik: Now, your investment thesis is based entirely on the idea that US and European gas prices and we're talking now about natural gas, not gasoline, those prices ought to converge. It seems to me that's entirely dependent on the viability of an arbitrage between those markets. As you just said yourself, 20% of US export capacity for LNG was taken off line with the Freeport fire. So is there a whole bunch of new gas export facilities being built that I don't know about? And I'm not asking that rhetorically, I literally don't know I don't follow the gas market. It seems to me for your story to play out. We got to be able to export a whole lot of gas onto ships and I'm not sure if the ships exist or if the export terminals exist, or if the import terminals exist in the other country that need our gas. How does that all fit into the story?

Adam: Yeah, absolutely. So no, I think you're totally right. I think so long as Freeport is down, that infrastructure bottleneck probably will persist at the LNG liquefaction side of the supply chain. And that will prevent the arbitrage of US prices from global prices. No two ways about it. But what I had been worried about, even if you take the long view on when that's going to come back online, it shouldn't be back online by year end. Now what I had been worried about initially,

was this idea of inventories because stockpiles and inventories can provide a buffer. And so they can really do a good job of being able to bridge a particularly tight market for a period of time, right. I mean, that's what stockpiles are there for. But if we had this situation where stockpiles were extremely low, then yeah, you take Freeport offline, as soon as you bring Freeport back online, your problems there again and that bottleneck potentially begins to dissipate. It was unclear how inventories would repair when Freeport first came offline. And what's astonishing now is that they really, really haven't built at all. In fact, they've gotten lower relative to seasonal averages. So yeah, I agree. I think that the convergence probably has to wait for the Freeport facility to come back online. But the big question there is, as soon as it comes back online, do we hit that point? So is it something that's going to be a fourth quarter event? Or were you able to rebuild inventories, build this cushion and buffer and now it's sort of a late 2023 event? We're long term investors so either way doesn't make a huge difference to us. But whereas I would have thought originally, perhaps it had been pushed out to next year. I'm not so sure anymore, because we're not building that buffer back.

Erik: Adam, I want to move on to a couple of other excellent topics that were in your letter. You talked about the fertilizer situation globally. Give us just the quick outline of that and tell us what people can expect to find when they read that excellent coverage that you have in your letter. Same thing on gold, you say we're getting close to time to buy gold? Why is it that you guys had gotten neutral on gold a while back and why do you expect to fairly soon get bullish on gold.

Adam: So on the fertilizer side of things, you really can't imagine a more perfect storm. It's just sort of been buffeted on all different sides. There's three main types of fertilizers. There's nitrogen, phosphate, and potash. Nitrogen is made from natural gas and to the extent that we have a natural gas shortage, we've seen a lot of nitrogen fertilizer capacity come offline around the world. So that should really tighten that market and it has really tighten that market. On the potash side of things, the phosphate side of things, Russia and Belarus control a large amount of the world's potash and phosphate production. That's obviously being disrupted now because of the Ukraine-Russia conflict. And so I think you're going to run the risk of potentially having supply shocks there as well. And then just from a straight growing perspectives. This is not fertilizer, but this is just grain prices. And of course, if grain prices move higher, that means that farmers have more income, and they tend to spend more on fertilizer. But from a grain price perspective, the Ukraine and Russia both are huge grain exporters and wheat in particular in the Ukraine. And that crop has both been disrupted in terms of being able to be harvested and then shipments are now being disrupted as well. And of course, as I'm sure your listeners know, we know the Russians have been shelling the port of Odessa. And that's now resulting in even more bottlenecks. So there had been some hope that perhaps we gotten past some of that, and that looks a little bit less likely now with the recent hostilities in those port towns.

So, I think from an agricultural perspective, we're in a really really tough spot. Stockpiles are fairly low around the world. Demand for all kinds of grain has been so strong the last 10 years, so strong. And it's really been, an emerging market story. As countries get richer, they want to consume more protein. That's really grain intensive and so demand has been there. But it's

been met by year after year of bumper crop. Now how do you get bumper crops? Well everything needs to be firing on all cylinders, and you need to apply a lot of fertilizer and we're just not going to get any of that this year. We're not going to get the same fertilizer applications because of disruptions and because of gas. And we're not going to just get the same amount of actual acreage because of the conflict in the Ukraine. So I think the ag market is really tight.

As far as gold goes, we got out of the gold market very well. We got involved in 2018. and we got out of the gold market in the summer of 2020. And what we were seeing there was that the relationship between energy and gold had never been cheaper in the sense that energy was never cheaper. And historically, whenever you get energy to be anywhere near that cheap relative to gold, which is when one ounce of gold buys 30 or more barrels of oil. It's always paid to get out of your precious metals and start to get invested in the energy space and so that's what we did. And it was obviously really good call. Today, I think things are, you know, we see some warning signs on gold, and we see some things that are looking more favorable. Certainly, the gold-to-oil ratio has improved a lot as energy prices have moved higher and gold move sideways. Flow of funds has gotten more constructive as well with Western speculators coming back into the gold market. So I think that the big risk to gold prices today is that we're still in a rate tightening cycle. And historically, that obviously is tricky for gold investment. We bought sort of a half position in gold stocks. We're probably a little bit early. We tend to be early on everything that we do so that was no surprise to us. But at some point, it will be the time to bring that up. We thought perhaps it was coming as early as April-May and it looks like we're a little bit early there. So getting closer every day.

Erik: Adam I can't thank you enough for a terrific interview before I let you go please tell our listeners what you do at Goehring & Rozencwajg and how they can find out more about the products and services you offer.

Adam: Oh great. Yeah, please visit our website. We are natural resource equity investors so we're not a research firm. Some people think that we are. We actually do manage money. All of our details are on our website, just [Goehring & Rozencwajg](#) on Google. Luckily, it's a unique enough name that if you can get it half right, you'll find the website. The website is gorozen.com and we publish everything. It's all free of charge so please go have a look and hope you enjoy.

Erik: And listeners I really encourage you to read the first quarter letter that Adam and his partner Leigh Goehring wrote and I think you're gonna want to sign up for that free subscription. I certainly plan to! Patrick Ceresna and I will be back as [MacroVoices](#) continues right after this.