

# THE MIKE ALKIN SHOW

## TALKING STOCKS OVER A BEER



## Ep. 8: The Best Risk/Reward Setup I've Ever Seen *with guest Scott Melbye*

**Announcer:**

Free and clear of the chatter from Wall Street, you're listening to Talking Stocks over Beer hosted by hedge fund veteran and newsletter writer Mike Alkin, who helps ordinary investors level the playing field against the pros by bringing you market insights and interviews with corporate executives and institutional investors. Mike sifts through all the noise of mainstream financial media and Wall Street to help you focus on what really matters in the markets. Now, here is your host Mike Alkin.

**Mike Alkin:**

Welcome to the podcast. It is Tuesday, April 3rd, 2018. Hope you had a nice weekend. I had a fun weekend. We had my in-laws over yesterday for Easter. It's nice to see them, and the kids got to play a lot with their cousins. It was a good day. That was Sunday. On Saturday, my wife ... The weather was pretty nice over the weekend here in New York, so on Saturday my wife said, "My parents are coming, my brothers and sisters are coming, but I haven't been able to get a hold of Joe the landscaper, would you mind doing the yard cleanup for the season," because it's really been the first nice weekend that we've had.

We have a landscaper that comes over, doesn't charge a lot at all, comes over once a week, does the lawn and cleans it up and everything, but he does nice spring cleaning at the beginning of the year. My wife said, "I can't get a hold of him, it's probably a little early. Would you mind," I said, "Okay."

I have a nice leaf blower, and so I went into the garage, got it started, and I'm starting to ... You know, you go into the back of the bushes and you blow out all the leaves and you do it ... I was doing it in the front, the side of the house, the back. I'm 10 minutes in and I'm feeling good, and it dies; the leaf blower is done.

I spend 15, 20 minutes applying all of my mechanical knowledge to it, which is about 14 minutes more than I am capable of, which is surprising because I grew up with my grandparents; Italian immigrants, and my grandfather was a longshoreman and a mechanic on the piers in Brooklyn and he could fix anything. I can fix nothing. It's pretty remarkable that even through osmosis I wasn't able to digest or remember anything from

growing up, but I try and more often than not I'll do something around the house and my wife will just have to call somebody in to fix what I tried to fix and couldn't do.

Here I am, I'm thinking, "Okay, so the leaf blower dies, that's great. So, what? I'll get a good workout in. What's it going to take me; an hour, hour and a half?" I'm about two hours in and I'm starting to feel it, and my legs are starting to feel it a little bit. Now over the winter I probably put on 10 pounds, 15 pounds. I mean, I'll skate, I'll play a little bit of hockey over the winter, but I just ... It's cold out, I'm not doing a lot of outdoor stuff, so I could fluctuate in the winter time, and then I'll lose it soon as spring comes back. I'll get working out pretty quickly, and stuff. I'm not the ultimate gym devotee during the winter.

I thought it'd be great to get the workout in, but like I said, I'm two hours in and I'm starting to feel it every time I bend down and it's not feeling great, but I'm motivated, I'm excited and I'm thinking, "This is great, great day to spring. It's probably 60 degrees outside." Three hours in I'm starting to fade a little bit more and I look around and I'm thinking, "Oh my God, I still have so much more to do."

Four, four and a half hours in I'm making some progress but I'm feeling it. By this time my back, the rake, my hands ... I got blisters on my hands, every time I bend over I'm feeling it in my knees. I've had knee surgery in the past, so it does come back to get me once in a while. I've got a bone spur in my thumb that's getting to me.

About five hours in I have to go pick up my daughter somewhere, and two hours in I texted my wife; she was out, and I said, "Have you heard from Joe," she said, "No, I can't get a hold of him, I told you." Three hours in I text again, nothing. I go get my daughter and I get in the car, and I felt good ... I have a Jeep, so I have to climb up into the Jeep; felt good. My legs were sore.

I sit down; I drive 15 minutes to get her. I come back; who is sitting there? Joe. Joe and his entire team of landscapers, six guys, out. I don't know what they were doing, because I had pretty much done it all, but they found a lot of stuff that I couldn't do. Timing is everything, right?

We get done and I go inside, and I am now pretty wiped. I sit down on the couch, now the Final Four was coming on. I sit down and I get a Diet Coke, and my son comes in. He's 12. We play a lot of

hoops; he plays a lot of sports, and he's good. He's 12, but he's about 5'7". He can dribble, he could shoot. He's a good basketball player. We play a lot in the backyard, he's like, "Come on dad, let's play," I said, "Hey buddy, daddy is not feeling so great," he goes, "Come on!"

Well, we go outside and we play a three, three game series to 11; you've got to win by two, so each game is up to 11, one point for a basket, you have to win by two. Normally I would say up until a few months ago if I was winning I might hold off a little bit, and he knows the secret the secret though, because I'm hot or cold, if jump shot's good it's good, and he's got problem, if it's not ... He's like the Energizer rabbit, the bunny, so he never stops, and he could wear me down.

Let's just say after five hours of landscaping, it was no contest; he smoked me. He was feeling pretty good about that. That was my Saturday. Sunday, like I said, the in-laws came, it was pretty nice. It was just nice to have everyone over, and wrapped up Sunday night with my usual routine with my wife, which is watching Homeland, and then Billions, and here we are.

I want to talk a little bit about last week in the markets; it was it was interesting. I think you've heard me say that it has been a bit of a seesaw, seems like one step forward two steps back. I think if you been listening to the podcast you know that I'm bearish, but last week the equities rebounded. It ended what was really a two-week skid and the NASDAQ, the tech heavy NASDAQ I should say, it was up about 1%, the SMP was up 2%, and the Dow rallied 2.4%.

I love bringing in the Dow in, by the way. I recall for years I forgot the Dow existed; it didn't matter, it's 30 companies, but normally you get to it when it crosses big milestones. I remember in the late '90s it was Dow 10,000 and then not too long ago Dow 20,000 and those hats come out. Normally when you talk about the market it's the SMP, but the Dow has found its place again, and it hovers where; I don't know, 24,000 or so.

Monday last week had a really big rally, I think the markets were up 2.5%, 3.5% at the different indexes because the US and China start negotiating on the sanctions and trade, and there was talk of ... There was less concern about the trade wars, and the week went on and on, and it was more the bullish camp. Amazon though is under a little bit of fire. President Trump is all over them.

Now, Bezos, Jeff Bezos; the owner of the ... The CEO and founder of Amazon, he's also the owner of the Washington Post, which we know Trump feels about Amazon, the Washington Post, which is fake news according to President Trump and they ... Amazon is coming into his crosshairs right now. He went on a tweet storm over the weekend, this past weekend, talking about they ... Not paying their fair share on shipping. It's going to be interesting to see what happens there. The other [fang stocks 00:09:15] have been under pressure, fangs meaning Facebook, Google, and so on, over these data breaches and privacy concerns, and that has weighed heavily lately on tech.

What was interesting to me last week was 11 of the 11 SMP 500 sectors finished the week with gains, but it's not so much that, it's what made up the move. The less risky groups like consumer staples, utilities, telecom services; that's what drove the market. Staples were up 3.5%, the utilities were up 3%, telecom services a little over 3%, and the tech sector was up 1.7%.

Normally what you see, or have seen over the last several years, is what you would call the risk on trade, which is when people are feeling less concerned in the markets going up you see rotations into riskier stocks. Obviously tech has been on such a tear for a long time now, and when there is people are feeling a little more bullish you see risk off, so people rotating in. That didn't happen. Here you had gains in the market but it was the safety stocks, the safe havens that that rallied a little, that let the market, which to me is something I'm watching because it's telling me the mood of the market is changing. While we had a big move up for the week, it was the composition of that move to me that is I think worth keeping an eye on.

I get asked a lot, "What would you like, how do you think about investing? What's your investment style?" I've talked about this before. For me, if you're listening to this podcast, it could be a first time or you're a regular listener, if you're a regular listener you know that I'm what's called a contrarian. I am taking the other side of conventional wisdom, of consensus.

I don't do that simply because I just want to be difficult or different; I do that because I think that there is less wisdom in crowds than one might think when it comes to stock prices. I'm

betting against conventional wisdom, because often what I find is that there is comfort in crowds, and when there's comfort in crowds the narrative starts to take over.

I equate this back to what you will see professional investors do. There's something called the idea dinner, and the idea dinner is where a handful of folks get together and might go out to eat and the purpose is to share investment ideas; sit around the table, have a few drinks, have something to eat and it will go around the table and each person will pitch their best idea.

If you're at an idea dinner and somebody pitches an idea that's very popular and the narrative is easy to adopt, you see a lot of headshaking and everyone says, "Yeah, that's right. Yeah, that makes sense. That makes sense." Well, a lot of that is probably priced into the stock, and because people take comfort in crowds, they're sitting there and it's easy to agree with consensus.

What I like to do is when ... But consensus is where the prices are already pretty much reflecting that view, and then ... So, if it's that view is widely held, then what takes the stock higher? Well, earnings can go higher, and if the earnings go higher and people paid the same price for that earning stream, the stock is going to move higher just because the earnings have gone higher. If the earnings stay the same and the stock goes higher, that means people have paid a higher multiple on that earning stream, so you have multiple expansion.

Now, we've had a lot of multiple expansion, and what I think is interesting when I'm looking at this is I always want to ask myself, "Well, what's going to make somebody pay more for that earning stream in the future? What is that piece of news, what is that information that people don't already know? What's the surprise?" When something is widely held, or the view is broadly known, it's hard for that surprise to move the stock.

When you're a contrarian ... And by the way, contrarian is both long and short. Now, I spent much of my career as a very aggressive short-seller. No, short-selling is not a four letter word; it's not bad guys doing bad things. It's people who have a different view on commodities who think that consensus is wrong and that the earning stream, or cash flows, are going to decline and is not reflected in the price of the stock, and because there's so much

risk, if you're wrong, right ... So, in the world of short-selling you borrow shares from an investment bank, you sell it into the market, you take the cash. At some point in time you have to replace those shares to the investment bank.

Your goal is going you're going to go back into the market, buy those shares at a lower price and you pocket the difference. If you're wrong and the stock keeps going higher, at some point you have to go and replace those shares, and it can go to infinity. There's no cap on how high a stock price can go. That's an inherent risk in short-selling.

Now, because of that inherent risk, if you're going to make part or all of your living is a short-seller and want to have any shelf life at all in doing so, you better do your research. You better be really good at doing your research. If you're having a contrarian view for the sake of being contrarian, you're going to have a very short career as a short-seller.

You have to be selective. You have to look at what's out there, look at the research, and then whether you see something in the financial statements or you see something doing primary research your work has to really beat at a level that's different than the average bull on a stock.

Now, on the long side you can be a contrarian and you're just looking for things that are beat up in dead and left for dead, left on the junk pile. Where I tended or tend to find those opportunities, both on the short side and the long side, I like to look a similar ... If I think about my longs, I like to find very deeply cyclical industries where the cycle has extended for multiple years, where the underlying price of the products sold, or the commodity, is dramatically been reduced.

Where the narrative is easy to adopt, where it's obvious everyone knows the problem and the stock prices reflecting that, and it's there where I'm looking for changes on the margin that are going to make a difference, and it's there while I'm doing field work to try and identify where consensus could be wrong, where everyone knows what the bear case is, and then I'm factoring in what's my risk reward, I look and say, "Okay, if I'm wrong, and I can promise

you I will be wrong, I can promise you most people, everyone will be wrong, not most; everyone ... That's something else, when you're ... A lot of these inbox in your newsletters and you hear about gurus and how many people got this one right and that one right, ask them what they got wrong, because I can promise you they did. I do. We all do.

As I'm thinking about risk reward, what I'm thinking about is if I'm wrong, how much lower is the stock going to go, or the group of stocks going to go and what's my reward if I'm right. Is the sector so beaten up, is it so left for dead that if my work is right how much am I going to get paid on that, and then that goes a long way towards determining how big I make the position.

If I find a company, or group of companies, or sector where the narrative is so long in the tooth, where the stock prices are so beaten up, where I can find by doing my own research that "Aha," moment where I think they may have it wrong and I think that the upside dwarfs the downside, that's going to go a long way in determining my position pricing ... My portfolio positioning.

Now, there are sometimes I do that, where I may find a very interesting little speculation, where if I'm wrong it could go to zero but if I'm right it could be 10 bagger, a 20 bagger, a 30 bagger, but if the probability of going to zero is high, because it has to go through a litany of things take to make it work, this can be a very tiny position, but you take a fly around it once in a while.

Then there are those industries where you look at it and you have do a double take and a triple take and say, "Wait a second, I must be missing something," because the asymmetry, the risk I'm taking is so small for the reward that I can get, that something doesn't make sense, and once in a while in your career you find those things.

It doesn't happen often ... And that's why, by the way, the guru trade; when you follow the gurus, if somebody made a phenomenal call and they ... It was market moving, it was they caught lightning in a bottle, it's hard to do it three, two, three, four times. It's about what you done for me lately; just because you found something once doesn't mean you're going to find it again and again and again. When you see those, you really have to pay attention. How do you look for that? I call it the five-minute grits in a group of



people who are too clever by half. That's what I'm looking for. I'm going to say that again; I'm looking for five-minute grits in a group of people who are too clever by half.

I am a fan of stupid comedies, and my favorite movie of all-time is My Cousin Vinny. If you know My Cousin Vinny maybe you just chuckled, and if you don't I'll give you a very quick synopsis. Two college kids are going from New York with thick New York accents are heading out to California to go to college and they drive through the Deep South. They pull in and they pull in in the ... Pull into a convenience store, they grab a few things, they leave and unbeknownst to them right behind them came another couple of guys driving the almost identical looking car and went in and shot the clerk and killed the clerk.

Well, a few minutes after leaving the store these guys were pulled over and they thought it was because they accidentally took a can of tuna fish, which they had accidentally, but it wasn't; it was because the eyewitnesses to the event identified this car. On these small back Deep South roads the police found this car and they pull these guys over, and they're on trial for murder. They didn't do it.

They didn't have any money, so they called in one of the guys, Billy Gambini ... William Gambini called in his cousin Vinny, Vincent Laguardia Gambini, from New York. Vinny and his girlfriend drove down to Alabama to defend these two youths. They drove down, and Vinny was a character.

He was a guy who had failed the bar six times and ... Maybe seven, and he just couldn't get on the right side of the judge; everything was going wrong. He didn't have the right clothes. He didn't have the right ... He didn't ... He had never tried a case before. He had no idea what he was doing, but he was smart.

In the course of their first couple of nights in this small little southern town they weren't getting much sleep, and in the morning they went in to the first coffee shop they could find and on it the menu said breakfast, lunch, and dinner and that was it; nothing else, breakfast, lunch, or dinner. They ordered breakfast, and they were ... The short order cook was making grits, and they had never heard of grits. They asked how grits were made and they said, "Well, grits are made ... You soak them into water for about 20 minutes," and that stuck in Vinny's mind. He didn't know it at the time, but it did.



It turns out during the testimony there's a Mr. Tipton on the scale who lived across from the Sac-O-Suds, the convenience store, and Mr. Tipton was asked by Vinny "How do you know it was those boys and not a similar looking car," and he said, "Because I know, I was making my breakfast and when I came back it was .. I saw the boys leaving," and he said, "Are you sure it couldn't have been more than a few minutes?"

He said, "What do you have for breakfast," he said, "Eggs and grits," and Vinny asked him what kind of grits he has, instant or regular, and he said, "Well, no. A self-respecting southerner eats instant grits," and that got a chuckle from everyone. Vinny said, "Well, how long did it take for you to make those grits," and Mr. Tipton said, "Five minutes," and that caused Vinny to pause.

He said, "Wait a second, do we ... Are we to believe the law of physics ceased to exist on your stove? It takes the rest of the grit eating world 20 minutes for the water to soak into the grits, but on your stove it takes five minutes," and Mr. Tipton said, "Well, I guess," and the questioning went on. It turned out that Mr. Tipton said, "Well, I guess you're right; it was 20 minutes."

What I'm looking for is those five minute grits for groups of stocks that are so beaten up that everyone is so sure of the narrative, so convinced it is what it is, that what they're really seeing is completely missing what's really going on. In the world of equities, a lot of times in these deeply blown up industries, there's change occurring. Human psychology is such, and the comfort of crowds is such where they take comfort in crowds, and if everyone saying it must be so it must be five minutes from the time he put it on the stove to the time he saw the kids leaving the Sac-O-Suds, but if you drill down you might find that it really was 20 minutes.

I'm looking for that, and then the group of people investing in it are too clever by half; they're too cocky for their own good. There's nothing really; they've got the narrative, they feel good about it, they're feeling pretty confident in it but not having done much work on it. They may have done work on it, but they're so confident in their narrative that there too clever by half and they miss what's going on underneath.

For all the spreadsheet work I do, and all the reading of annual reports, and all that stuff, my best ideas come from looking for five-minute grits in a group of stocks where the investors you

too clever by half. If some of you know ... Have seen me talk at conferences you will know that I think the group of stocks, the sector that I think has the best risk reward of anything I've ever seen in the market in my entire investing career is the uranium sector; uranium. Yeah.

That's the stuff tied to nuclear power. It's the feedstock for it. That, to me, offers so much asymmetry, so much upside and iminiums downside that I'm willing to wait. If you're an individual investor it is something that is really beautiful right now, because this group of stocks has gone from ... Well, the commodity has gone from 137 a pound years ago down to about 21 bucks a pound now. The number of companies who are in the mining business have gone from 500 down to about 40. It's been decimation.

The market cap of the industry is gone from about \$60 billion down to about five and a half, six, six and a half billion. I haven't looked in the last few weeks, the market cap, but it's gotten crushed, and because of that most of the professional investors can't invest in it; the industry is too small. If they wound up putting the big sums of capital they have to work they'd buy many of the companies, and they can't do that. It eliminates this massive swathe of companies, or of investors, mutual funds, hedge funds; they can't play in the space. That's good.

Then with smaller funds, if you're running a small \$100 million hedge fund, \$50 million, \$75 million, it's small, right ... You hear ... If you're an individual investor you hear \$100 million is small, in the world of professional investing managing that amount of money is relatively small; they have finite resources. They have a couple of analysts, maybe one or two analysts. The uranium industry is the most opaque complex industry I have ever looked at in my entire career. Nothing comes close.

The sell side firms, the investment banks that write research on these companies, almost all of them are gone. They've left. They left, because they can't make money. Their big clients can't invest in the stock, and there's not a lot of investment banking fees. If you are a small fund trying to get up to speed on the uranium sector you don't have the capital resources, the human capital resources to devote an analyst to spend months and months and months and months getting up to speed on it.

That's how long it will take without getting up to ... Without the benefit of a sell side analyst research report telling you about the fundamentals, and what's out there is kind of dated right now. You have this kind of vacuum, this void where the big investors aren't there; they can't be yet, the small investors don't have the resources. You have a group of stocks that are so beaten up, but the reality is the uranium miners sell into an end market called nuclear power that's going to grow 2.5% to 3% a year. It's a growth business.

I mentioned earlier people are out buying consumer staple stocks. Yeah, that's great. Go buy consumer staple stocks that are trading at peak margins, peak valuations, have basically no to little revenue growth, have already cut all the expenses that they could out of their business model, have financial engineered their way to earnings growth over the last several years by borrowing cheap money to buy back stock, but the core business stinks, and that's considered a safe haven.

Yet a group of stocks that mine something that goes into a business that provides 11% of the global world power, 20% of the US power grid, that's growing 2.5% to 3% per year, that has mired in a seven year long bear market, nobody wants to pay attention to it. That's where being a contrarian can be beautiful.

Now, you may have to wait, but if you were an individual investor you can wait. Big funds can't. They don't have ... Even if they could; if they could invest in the space, which they can't because it's too small, they don't have the benefit of time. They're judged every day, every quarter, every week, every month by investors. They can't wait a year. They can't wait 18 months. If you step back and you look as an individual investor and say, "Oh my God, I have something where I have to minimize downside, an upside that's tremendous, so what," wait.

I'm going to bring in a guest for the interview section to the portion today, a friend of mine who is a 30 plus year industry veteran in the uranium sector. He's the former president of Cameco, North America, and he is the president of Uranium Energy Corp, and he does advising to Uranium Participation Corp I believe, and he also advises Kazatomprom. Without further ado I'd like to welcome Scott Melbye to the podcast.

- Scott Melbye:** Great. Thanks Mike. It's always great to sit down with you and be with your listeners today. Thanks.
- Mike Alkin:** You bet. How was your vacation, you get some rest?
- Scott Melbye:** I did. Yeah, it was good. I got down to Mexico for a couple of days with the family. At least the kids were still in school. We had a great time, but ready to get back at it.
- Mike Alkin:** You've got uranium on your mind?
- Scott Melbye:** Mike, yeah. We definitely do have uranium on my mind and I'm quite encouraged by a lot of the long awaited catalysts that are now finally coming to fruition. It's a good time to sit down with you and your listeners to discuss what some of these catalysts are, some things that we should be looking for and kind of give you my views in any way of where we are at in the uranium market.
- Mike Alkin:** Great. Scott, let's take some ... Let's take the listeners back, let's give them some background on you. Now, you and I ... So, we have something in common. Mine is a little ... Well, actually a lot better than yours. I went to the University of Arizona and Scott went to Arizona State. We're going to let that pass right now.
- We're about the same age, and aside from the fact that he chose the wrong school ... Well, I went to Arizona originally; we'll let that pass. Why don't you take listeners back to ... And I don't want to hear it, by the way, from ASU fans. I went to the U of A, yes, and if you don't like it just deal with it. Scott, take listeners back to what you did when you came out of school, when you were in uranium space, so they get a sense for your experience in the sector.
- Scott Melbye:** Sure. Now ... And Mike you know you are my best friend from University of Arizona. Be my only friend, because you are my best friend from there. Mike, I graduated from Arizona State 1984 and really wanted to focus on the resource industry more in the business and finance side of the business rather than the mining, engineering, and geology which would have fallen in ... Followed in my father's footsteps.

I was more intrigued by the commodity side and I joined NUKEM Inc. in New York, and at that time they were still an independent German trading company. This is long before they were acquired by Cameco. It was a great first experience in the industry in '84 to really get a feel for the players in the business internationally and get a feel for supply and demand at that time.

Shortly thereafter I had the opportunity go back to Arizona and join the nuclear fuel management group at the Palo Verde nuclear station. I took that opportunity to really get a feel for what it's like to be a fuel buyer, what it's like the plan uranium inventory policies, and understand the full management principle in a nuclear utility.

I did that right up until the, sort of the end of the '80s when ... One of my suppliers at the time was Saskatchewan Mining and Development and they were going through a merger with Eldorado Nuclear to form Cameco. I took that opportunity to move all the way from phoenix, Arizona to Saskatoon, Saskatchewan and begun what was a 24 year career with Cameco in all aspects of their marketing and sales, including president of their global marketing subsidiary. That was an amazing opportunity to literally sell uranium to every electric utility company in the world, in Asia, South America, Europe, North America.

In 2010 however I made a change to fill with one of the major ... One of the top four producers in the world was Uranium One, and that brought kind of a continuation of some of the experiences I had gained in Kazakhstan through Cameco, but joining a company that was being taken private by the Russians, which we all know is quite public in the press these days, but it was a great experience to join them and advance relationships in countries like China and in the Middle East in the United Arab Emirates.

It was really only four ... About four years ago that I was able to join Amir Adnani at UEC and really do something entrepreneurial instead of being with one of the large cap major companies. This gave me an opportunity to really build something from scratch. That's what we're doing at UEC. I have to say it's probably one of the most rewarding times in my career, is to really just take something and build it up and build the asset base and de-risk the assets and get them ready to go when the uranium market finally turns.

**Mike Alkin:**

You've seen it from both sides of the of the isle. You've seen what it's like to be a fuel buyer and you've seen what it's like to be in the mining industry. I know you've spent a lot of time in Kazakhstan, and we could talk about that a little bit, but ... Scott, the industry is so fascinating.

Right after Fukushima in March of 2011 it's just been decimation. It's fascinating. When I started really honing in on the uranium space a couple of years ago ... I've always spent my career looking at deeply cyclical industries for the most part. I've looked at others, but I find that at big peaks and big troughs you can really find some interesting investments either on the long or short side. With the uranium space, because it is so complicated and opaque, it makes it even more interesting.

One of the things that struck me was a couple years ago the commodity been down; high 20's low ... Mid 20's, and I'm looking at the space and what struck me was how stupid are these miners. Here is an industry where demand fell off the cliff when Japan went off-line with 54 reactors shutting down, it was about 13% of world demand that went off-line, but the miners were still pumping uranium out. I didn't understand.

In normal, many industries, when there's demand like that that gets shut down the normal response is shut off supply or at least start to shut supply, but you saw capital expenditures and drilling and everything increasing; mine production, primary mine production kept increasing. As you start to peel the onion back you realize, well, that's because the miners are living off of these long-term contracts, these seven, 10 year deals.

It wasn't until, really in the last year so that these big waterfall of contracts were expiring and you're starting to see people who were working off of \$60, \$70, \$80 pricing now having to go in and enter into contracting in the \$20 and \$30 range, and that's not really work. Scott, for the listeners who may not be familiar with the dynamics of the contract market, of the spot market for uranium, what you get them up to speed on that.

**Scott Melbye:**

Well, it's probably one of the most important things to understand in the uranium market, is that we are obviously a commodity like any other commodity but we're nowhere nearly as efficient and mature a market as say other precious metals or base metals.

I would dare to say that in the copper industry, if you heard the Escondida mine was being shut down after 10 months in Chile, we would have a rise in the copper price almost instantly, and I think that's one of the frustrations. One of the most common ask questions I get from investors today is, "Okay, all these production cuts are now happening but why isn't the price responding," and the answer is, "Be patient," because we don't ... I don't think the fundamentals of supply and demand react in real time as they would in a more efficient market where there's a lot more volume traded on a daily basis.

You've touched on it; the lag times that we have in our industry are profound, and so we have ... It takes a very long time to get mines into production because of the unique permitting of not just mining permitting but uranium mining permitting, so when you set that cycle in motion it could take seven, eight, nine, 10 years to bring a mine into production. You could be beginning that mine development in a very different market than where you end up when you finally start operating.

You've also touched on the hedged contracts. I think as a commodity we have a much greater percentage of hedged forward contracts which gives stability for some producers who choose to hedge their production forward, obviously protects them in the downside when prices fall, but that also has the distortion of continuing to support what might otherwise be an uneconomic mine at a much higher production cost than the current stock price.

Now, that is being ... What's really coming to our head now is all these old contracts that were signed, and we had some pretty profound peaks in uranium price in the last 10 years, in the 2007 period where we saw prices over \$130 a pound, we saw \$70 a pound right before Fukushima, a lot of contracts were signed in that period and that's what these high cost producers have been surviving under. If those contracts were a loss, if they're \$65 or plus production cost from a big conventional mine and they're now forced to sell at \$22 in the spot market or \$30 in the long-term market, the decision is going to be quite easy.

That's what we're beginning to see. Even big companies like Cameco that have outstanding assets in Saskatchewan, even they realize that to continue to just produce those world class assets



into a depressed market and not cut back would just be insane and they'd be hurting themselves in the process. You can see that in their decisions, not only at MacArthur River but Rabbit Lake and also their US operations.

Having worked with the Kazakhs I'll say they're going through a very similar rationalization of their production strategy. I will say that it's been a profound change there, where it wasn't that long ago that they were operating under the State owned mindset of just produce; more is better, but now I can tell you especially as they are looking ahead to an IPO and certainly looking to produce profitably from those operations they're realizing that they have to do some rationalization of production at their mines and their joint venture owned mine. That's something that they've been dealing with in 2017 and working through their joint venture partners for production levels over the next three years.

**Mike Alkin:**

For listeners who don't know, the uranium mining industry is highly concentrated. The Kazakhs, who through their State owned company Kazatomprom, 41% of the world market. Think of them as what, to uranium, what Saudi Arabia is to oil times three and a half, if you will, in terms of market share. The Kazakhs produce about 24%, 25% by themselves and the balance of that 41% comes through joint ventures.

They have ... They are a low cost producer and have been pressuring the market, and we'll talk why, besides low-cost; the mechanism by which they've had to sell into the spot market. Scott, one of the things when you look at the existing narrative on uranium it's interesting that the bears will say, "Nuclear power demand is declining and cheap natural gas is a big threat, Japan has been very slow to come back online, there's way too much inventory, there's too much secondary supply," and we're going to touch on these things.

What's interesting to me is when I was coming, couple years ago and I devoted all of my time after my sniff test said, "Wait a second, there's something really interesting here," there's more nuanced things at play here, and some of the things I didn't see talked ... And I still don't see talked about a lot is ... So, these contracts ... And I know you know this Scott; I'm talking for the benefit of our listeners but I'm going to ask you to comment on it.

Before the Kazakhs were ... The Kazakhs back 10 years ago or so, nine years ago, were less than 10% of the world market, and that's now 41%, and through some transfer laws that were put in place in Kazakhstan in 2009 because the Kazakhs were worried that there was tax evasion taking place and so they were worried that people in the oil and gas and the mining industry were pulling stuff out of the ground and not giving the Kazakhs their fair share, so they put in laws that said if you pull something out of the ground you've got to sell it into a market where there is a spot price, and in the rest of the commodity complex that's so.

In the world of uranium mining, because security of supply is far more important to a nuclear power plant than the price they pay, because the cost of uranium is it could be 5% to 10% of the overall operating cost, but if you don't have uranium you don't have nuclear power; if you don't have that fuel, so they always entered into long-term contracts, but because the Kazakhs had low costs, cheap labor, and their mining methodology, and they had to now sell into the spot market, after Fukushima and demand started to wane they were pumping uranium in because these mines are in remote areas and the cash flow from these mines go to pay roads and schools and healthcare, so they needed to produce it and that kind of worked that way. Now, so you saw this during a downturn the Kazakhs take massive market share.

What's interesting is most of the time, Scott, the contracts for uranium between the mines and the nuclear power plants were seven to 10 years and we saw spot take a big role as I just say. Another market has developed over the last few years, which is a more intermediate-term market which is one to four to five years. What I don't see get talked about is why that developed. It's something that I think ties back to what we would call a carry trade, which is where because the cost of money has been basically zero with 5,000 year low interest rates, if I'm a uranium, or if I'm a nuclear power plant I could either buy it and hold it for the future at today's low prices or convince one of the few trading houses of uranium to go do that for me.

As I started to peel the onion back what I didn't see was, wait a second, if you believe interest rates are always going to stay here; that's great, but if you believe that world economy picking up is going to lead to increasing interest rates that going to have an impact on the counterparties to the carry trade. Can you talk about the carry trade and what impact you think that has had on the uranium market?

**Scott Melbye:**

It's really been profound, and I think to people who invest in commodities, they're going, "Why is the carry trade something more recent in the uranium market? That's something that's quite commonplace in other commodities." It was really something that developed really within the last, I would say 10 years, and was really brought about through Deutsche Bank and Goldman Sachs who looked at the situation and said, "Hey, screw the Fed policy, they're essentially getting free money and if we can buy this stock uranium today and sell it to A rated utilities and utilize that low cost of money and sell at a fixed price two, three years from now," they'd do that all day long, and utilities thinking also, "Wow, we can walk in today's low prices for two, three years into the future by taking advantage of it." it's become a very big feature of the uranium market and it's really changed things.

Before that, you had a stock market which was traders, producers, everyone in that one year or less market, and then you had the long-term market which was the realm of the producer who dictated what those terms were, and then this medium-term market has really kind of bridged the two markets.

Now, I think it has been fairly daunting because this has come at a time when we've had very low interest rates and very low uranium prices, but I do think it's an efficient aspect to any market that helps rebalance things much faster than they would if you didn't have that carry trade activity. While it's been painful, as you've mentioned, we're now seeing a point where that could change pretty dramatically because the value of the carry trade is cheap uranium, low interest rates. If both of those head north, suddenly the carry trade isn't an option and you're basically looking at, "Okay, do I buy spot and carry it on my own books or do I contract with producers at their terms, which reflect more the cost of production and ability to discover, find, develop uranium."

**Mike Alkin:**

Scott, if I look at right now, if I look at three month Libor, the London inter-bank rate, it's gone from 1.15% a year ago to 2.3%; it's doubled basically in a year. We are starting to see the Fed is hiking rates, and I just don't see it talked about a lot, at least in the uranium investing space. If rates keep going, to me, this could really impact that carry trade market.

**Scott Melbye:**

Both, absolutely. Again, it's just a function of those two key factors. If uranium prices increase and interest rates increase, suddenly that carry trade doesn't look as interesting. It goes hand in hand

with what's happening in the market. We've been for decades an inventory driven market, which any economist would tell you it's not a good situation to have your ... The marginal stuff and the source of supply being inventories, because they often don't have the same cost of production bases underlying them.

We are now rapidly getting to a point where we need new mined production. We've been consuming more than we've been producing since the late 1980s, so this has been a massive drawdown of over a billion pounds of excess secondary supplies. With this change in interest rates and on the spot market increasing, if that happens at a time where we're also transitioning into this market where new mine production is needed, well, remember what we said about the lead times to bring on new mines; it could be six, seven, eight, nine, 10 years, you then have a very interesting investment thesis where the uranium price could increase pretty dramatically and production doesn't increase.

This dysfunctionality of the uranium market just doesn't work one way, when it's over supplied on the downside it also helps things spiral upwards when things do, when the supply and demand goes into balance or even shortfall. I think that's what we're going to be seeing now in the next couple of years, is that play out.

**Mike Alkin:**

Scott, another thing I don't see talked a lot about but I think has had a profound impact on the market is the depreciation of the Kazakh Tenge against the US dollar, which in 2015 was devalued and the Tenge has declined about 80% against the dollar. Can you talk about the impact that has had on the Kazakhs?

**Scott Melbye:**

Sure. One, I should say that Kazakhs do have some of the lowest cost mines in the world; the Karatau mine probably being the lowest cost produced in the world, but not all of their assets are of that same quality. They have a range of production costs.

If you took, on a net basis across the board, their entire portfolio of some 20 mining operations they were getting down to a point in recent years, when you approached the \$20 a pound level there were alarm bells going off, not only within the energy ministry and Kazatomprom but also with the president himself who, again, worried about the shrinking profit from the uranium mining operations not being able to supply and support social infrastructure in those rural areas.

I remember being in an all-hands meeting in Astana where the CEO at the time, who I was advising, was giving a talk to everyone and saying how important it was to adopt better business practices that allow them to peak; meaning lowering costs, coming up with digital controls at the mines, anything they can do to remain competitive, but he gave a very strong caution to everyone in the room, and this included all the mine managers from those operations, was that if anyone thinks that the depreciation of the Tenge is going to save us or your particular operation, forget about it. That's a crutch, it's something; one, you don't control; and two, it's not something you can on going forward. I think they're very ... And I think that's a very wise approach, is that, okay, they did get a little breathing room, definitely breathing room, by the devaluation of the Tenge-

**Mike Alkin:** ... because they cost it ... Their costs are in Tenge but they sell in dollars.

**Scott Melbye:** ... exactly, but they know that you can't count on a weak currency continuing. They're a very heavily resource driven economy, largely oil and gas. If you see oil and gas prices, they're recovering; you see the Tenge recovering, and so that benefit goes the other way. Again, this thought that they can just produce at any price level is not accurate; they're feeling real, real heat and pain at these current spot levels and that's why they've been forced to take dramatic steps both on the operations side and on the marketing side and strategic development side to change the way they operate.

**Mike Alkin:** Scott, as somebody who advised the CEO for a few years, can you talk about the transformation that you saw from when you first went over there, I guess how often were you going over, and kind of the mindset shift that you've seen over the last couple of years?

**Scott Melbye:** I was traveling over there at least once a quarter, and I think they still have a long ways to go, but I look at the improvements that have been made over the last two or three years, they've been pretty profound. When I got there, you still had a post-Soviet State owned company that, again, when you ask them about their strategic development process there is just ... There were crickets.

The thought was, in the old Soviet days, produce more; more is better. If it's widgets, uranium, anything else; just try to produce more and that will get you recognized and that will be a good thing.

We very quickly then showed them the economics of why that isn't the case in the market today and producing more and more pounds is simply reducing their own profitability and depressing the market, which as a largely spot market or spot index seller they were just killing themselves at that rate.

I have seen a real awareness, executive level and the operations, that, "Hey, maybe we do need to be a little more strategic with the production levels." On the marketing and sales side, which was my focus, I've really seen them really try to transform and adopt. Certainly, what I brought to them were the best practices, some of the best marketing companies in our industry today; companies like Urenco, companies like Cameco and others, and try to instill what has worked for those companies for the Kazakhs, and I think in the process this will really lift their game, allow them to be a more diversified seller, not depend so much on China ... Well, though it's great to have a customer like China right across the border from them.

Again, I think this whole lifting of their game in the area of marketing and sales can't be anything but positive for the uranium market going forward and I think you're going to have a much ... I think you already do have a much more responsible party managing 40% of global supply. Part of that, and I know you've talked about it quite a bit with your listeners and readers, is the THK entity which was in Switzerland, and this is interesting-

**Mike Alkin:**

... Scott, not to interrupt you there, but it's called Trading House ... Just for listeners, Trading House Kazakhstan. It's a new entity that has been established in Zurich, Switzerland, which for the first time any major commodity producer in the world trades their own commodity. The Kazakhs did not have that. They also were able to ... When they had to pull out of the ... When they were pulling it out of the ground they had to sell into the spot market; they were depressing the market.

Now with this subsidiary that has a balance sheet in Switzerland, the Kazakhs can pull it out of the ground and now have some optionality. They can choose to buy it from themselves and pool that inventory, or they can just be more of a market participant and have more of an influence in the market. That's what Scott is talking about with THK.

Scott, actually somebody ... And I won't mention, but somebody was out recently in the uranium industry and said, "Oh, it's just a myth; THK." Why don't you comment on that, why don't you comment about what you've seen over there.

**Scott Melbye:**

Well, I can tell you THK is very real and it's up and running today. One thing that's important to note is that when you hear of a Swiss MC being set up it's usually for the purpose of tax optimization in a global organization. This really isn't, as a State owned entity, it's not as much tax driven as it is to give them more flexibility as a marketing entity.

For their production, which was marketed under those very inflexible transfer rules, pricing rules, they still meet the transfer pricing laws of Kazakhstan but they're mad with the initial transaction with the Swiss company. Then you're right; they do have the ability to sell under fixed prices or market related prices, or they can if the market isn't ideal, they can hold back and not sell the material and build up inventory. That's something they couldn't do under the transfer pricing. They had to get paid ... Sell and get paid for the material they export within a very short period of time of the material leaving the country.

Well, now they can be more like Cameco; they can build up inventory levels at all the various conversion facilities around the world, where the uranium trade actually occurs, they can build up those inventories logistically. It makes them much more effective as the seller.

It also does allow them to engage in the market as a trader. We've seen that with most major producers have incorporated some element of trading to their core uranium marketing and sales activities. I will tell you that THK has two gentlemen that are, being 12 hour time difference at least from where I'm at here in Denver, they are coming in late in the afternoon Kazakh time, working all through the night and they're in front of their screens and they're just doing nothing but monitoring and interacting in the uranium market on a daily basis. That's something that was unheard of two years ago in Kazakhstan.

Listen, as a capitalized trading company in Switzerland they're able to jump in when there's periods where let's say traders are pushing the price down at month end for their own purposes, THK, Kazatomprom can now step in and say, "Oh, we'll take advantage



of that market development and pick up the material,” and can essentially defend the price in periods of weakness, much like Cameco and other producers have done in the past. It is a very real development, and again it is positive for the market in that it's just a much more savvy entity marketing this uranium than you saw in past years.

**Mike Alkin:**

I've had people on Twitter ask me, or people email me separately and say, “Well, if they're in the market, how come the price hasn't gone through the roof?” It just really opened a few months ago, and you mentioned you have a couple of guys there, and it's not easy finding really good uranium traders around the world; there's not many of them. It hasn't ramped right away, but I would think that they wouldn't want to be and just [inaudible 01:05:04] all up right at once. How do you think about that?

**Scott Melbye:**

One, they had to capitalize the entity. To be an effective trading company you need a pretty big capital basis behind you. In their case, they were quite fortunate, and that's the Kazakhs sale of their 10% interest in Westinghouse occurred bringing in about \$550 million. That money, as I understood, has gone into the THK entity. Now, I don't know that all of it will be directed to trading, but a good portion of it will.

Again, they ... You touched on staffing; one of the things that they do need to kind of come to grips with is they haven't really transitioned from the State owned pay scale, and so it's very hard for them to go out and acquire 30 year talent in the uranium industry to staff this thing. They do have Riaz Rizvi, who is the chief commercial officer there, who does come with extensive training experience.

In terms of the daily traders, what they have done ... Kazakhstan is a country that has young generation of highly educated, very Western younger people that have been ... Studied abroad at Wharton, at Harvard, at Oxford and so what they're doing is they're tending to develop that expertise homegrown.

We all know that that may take a little bit longer than a few buy off the shelf expertise, but in the process they are developing a group of uranium professionals that, again, are kind of being brought up from a foreign team rather than acquiring the big stars. That will cause this to be a little longer transition than would be normal, but it's not a bad strategy.

**Mike Alkin:** You and I had dinner with Riaz in Toronto last year with some utility buyers and I was very impressed by him. It was interesting, right, there's a guy living in London who did not need to go to Astana, Kazakhstan or Zurich, Switzerland to work for the Kazakhs and he at dinner saw that transformation over the years. You have a very Western commodity trading oriented person now leading that team. It seems like it's ... It seems like they're on the right footing right now.

**Scott Melbye:** Yeah. No, I know. I think he ... Both he and I looked at our involvement with Kazatomprom kind of on the same perspective, is that we looked at it as a professional challenge and being able to be part of something big; the transformation of the world's largest uranium mining company in the marketing and in sales is a pretty big deal, and so I think that's why Riaz is there and has continued to contribute very positively to that process.

**Mike Alkin:** Let's talk about the market itself. Without getting too far into the numbers, the world like you said going back for many years has been in a primary mine deficit, so there's more demand than there is supply. As I think about that, "Well, how do you have pricing that's down 90% from its peak," because there is secondary supply. That secondary supply comes in the form of underfeeding, which without getting into a physics discussion, it is when the enrichment plants are able to squeeze out more and enriched uranium product to sell into the end market. That has created a secondary supply.

We had the Department of Energy in the US paying for a cleanup of a couple of facilities and they were bartering for those services, so they were giving away uranium that was pumping some uranium into the market and a few other items of secondary supply. Basically when I started looking at this space, Scott, it was probably the market was oversupplied when you added up primary mine and secondary mine supply by 15 million to 20 million pounds.

Now, I will tell for listeners, the enrichment world is a very interesting world and it's a critical part of the nuclear fuel cycle in that uranium comes out of the ground ... I'll walk you through real quick, the nuclear fuel cycle, comes out of the ground and it gets crushed into something called yellow cake, and then it gets sent off to a conversion facility where it's turned into a liquid gas called UF<sub>6</sub>, and then from there it gets moved on to the enrichment plant.

Now, when it comes out of the ground it comes out at 0.7% energy content. It can't energize anything. It's at the enrichment plant where they move it up to 4% for nuclear power, or over 85% for nuclear weaponry. The enrichment portion is very important.

The ones who own the market shares there; the Russians, through a company called TENEX, have over half the market, and then there's a Dutch, English, German conglomerate that is private called Urenco that owns 35-ish percent, and then Ariva ... Well, they're called something else now but the French nuclear power company, has the balance, and the Chinese have a little and there is the smattering, but it's basically Urenco and TENEX that dominate the market.

They had, during this downturn they had some excess supply and they were pumping the market. Scott, talk to listeners about the enrichment market. What I find interesting when ... It's really complicated, because they're not public companies they don't have to tell you too much and you have to go through some old filings ... They do have debts, so they do file some stuff.

It's not easy ... What you're trying to do as an analyst is find the number of SWU; it's called a separative working unit is what they work in and they make EUP, enriched uranium product, and there was excess supply of SWU. There was 58 million units of supply in at the trough, 48 million units of demand. SWU is priced now at about 40 bucks per unit but it was priced 150, 180 per unit.

Just like uranium mining companies who were working off of much higher order books so were the enrichers and those, they were getting 150, 180 on long-term contracts and now if they go in through a spot market it's 40 bucks. That has changed the dynamic for the underfeeding to occur. They're not selling it for what they used to. Scott, what's your sense about what's going on in the underfeeding market?

**Scott Melbye:**

It's been a profound source of supply that's been meeting the gap. Obviously if production is well below reactor demand the secondary supplies have been meeting the gap and have been in excess to that gap, but 15 to 20 million pounds of that has been this underfeeding by enrichers.

It really came about ... If you take Japan, for example, when the Japanese utilities shut in their units it by and large had take or pay contracts with uranium producers, so companies like Cameco and

others continued to make the sales to the Japanese utilities even though they're not operating. Now, they might have negotiated them, stretched them out, done some workouts with them, but they're continuing.

With enrichment, it was largely a requirement based arrangement, especially with companies like Urenco. With no reactors operating in Japan, Urenco is selling nothing into Japan suddenly and it's been the case now for seven years. That caused a lot of excess capacity to be freed up for this underfeeding process, which is just basically ... The analogy is like making orange juice, you can use more oranges and just squeeze them lightly to get the same amount orange juice or you can use fewer oranges but really put a lot more work and effort in to squeeze that same amount of juice out. That's what they're doing to spin off excess supplies.

The good news is we've probably seen the peak of that contribution, given the fundamental of the SWU market and everything else. What will be very beneficial there are two things; one, the enrichers have completely scrapped their expansion plans for new centrifuges and in fact they've gone and are looking at shutting in some of their first generation centrifuges, so basically shutting in some existing capacity.

The other thing that will change the dynamics of underfeeding is, just take Japan, while it's been a very painful seven year process we did see very big progress in 2017 in terms of plants finally beginning to restart in a meaningful way to a point now where we have seven reactors operating, we'll probably have two more restart this year, and so we're clearly underway to get Japanese nuclear energy contribution back to about the targeted 20% to 22% of their electricity need target that's been set.

As they start to utilize their centrifuges more for their core business of enriching uranium into enriched uranium and having less capacity available due to some of these retirements of the older centrifuges the dynamics of underfeeding goes the other way to where it not only reduces but can completely swing the other way in an extreme case.

Again, it's been something that's been very painful because it's, as I said it, you could account for 15 million, maybe even 20 million pounds a year from this method, but it's something that's probably seen its peak and is probably heading the other way in the coming years now.

**Mike Alkin:** Also, you have the pickup in demand but you also see economics come into play for them too, right? When you're selling in an order book of 150 bucks or selling at [inaudible 01:16:05] 90 or 80 it's different, but when you're selling it at around where your cost is, that kind of matters, right? It's—

**Scott Melbye:** ... yeah, absolutely.

**Mike Alkin:** Scott, one of the things, when I really started diving into the uranium space, what struck me is when I'm looking at these deeply cyclical industries I like to look at the prior ... What drove prior cycles, and when I went back to the prior turn in '03 of uranium I saw there were 23 new reactor builds scheduled to come online and about 44 million pounds of new primary mine supply that was scheduled to come online.

I look around the world today and I see that there's roughly 60 reactors scheduled to come online, and when I looked at the new primary mine supply with the exception of a handful that could come online at around \$40 there's basically no major mine supply coming online. You have almost three X the number of reactors coming online than the prior turn, you have dramatically less new mine supply coming online, and then I modeled out every prospective mine in the world and the lightbulb went off for me and I said, "For new mine supply to come online, what's it need to be?"

I went country by country and I looked at all the economic studies on the mines and for any meaningful new supply to come online within any timeframe that approaches this cycle you need \$50 plus uranium. Now, there's a few mines at 40 bucks, some could come online for ISR mining, which is lower cost to start the mine, could come online at 35, but the supply from that is de minimus, it doesn't matter in the world dynamics.

You have the dynamics in the market place, much greater demand; you have 750 billion under contract in reactors, you need the price of uranium to go up two and a half, three times for new mine supply to come online, but for all these years we hadn't seen primary mine discipline until 2017, where we saw Kazakhstan in January of 2017 cut 10% of supply, then we saw the world's biggest mine, MacArthur River, shut down.

In November they announced they're shutting down in 2018, and they basically need \$40 uranium to be incented to do that. That decision is probably going to have to grow in March. They say they are going to start it in November. What's your thought, Scott, whether or not MacArthur River comes back online if pricing hovers around here?

**Scott Melbye:**

Well, my opinion is it's at least 10 months, and for two reasons. I think Cameco probably initially pegged the shutdown at 10 months more for Canadian labor laws than anything else. Anything more than 10 months triggers a different category of severance and benefits being paid out.

Two, I think Cameco would hope that things turn around and they can start back up after 10 months, but they've been quite vocal and said that, "Listen, if things haven't gotten any better we're keeping this mine down." I think it's a lot easier to keep a mine down that's already shut in than to make that initial shut in decision. Those are big conventional underground mines, there's a lot of moving parts there. To shut in a project like that's not an easy decision, but once it's down it's a lot easier to keep it down.

I think that they look at the situation now, we're bouncing around \$21, \$22 a pound, I think they'll have no decision other than to keep it down longer. I think that will be pretty profound for the utilities who view Cameco as one of the blue chip suppliers of the big cap companies. They should be concerned already, but I think that'll be kind of the last straw that could cause things to really go crazy.

I think you're smart to look at the previous cycles and say, "Okay, in 2004 to 2007 what caused the uranium price to go from \$10 a pound to \$137 a pound," and it was under-investment on the production side; you had years of low uranium prices which basically killed the exploration cycles but also killed any development cycles of new mines. Frankly, I think it even inhibited some capital, sustaining capital investments in existing mines. We saw that come to fruition with a couple of very large supply disruptions in Australia, in Saskatchewan and that was what it took to really kind of light the fire in that market.

We also had the nuclear renaissance coming about during that period, so you had under-investment in the supply side leading the nuclear renaissance. Well, the nuclear renaissance did pan

out, maybe not as big as we had hoped, but a lot of reactors around the world have been initiated and are coming online as a result of that, but I would argue that the period that we're in right now which is driven by China and India and the Emirates, and maybe now the Saudis and other countries, this is a whole new wave of development which is kind of a different kind of nuclear renaissance and it's driven by emerging markets who have no other choice but to build nuclear power plants given the air quality issues that they face, carbon emissions, and just need for baseload twenty-seven power, so I think it's smart to look at the conditions.

You're right, there were lots more ... A bigger group of mines being developed back in that time than we have now. I think utility inventories were lower back then than they are now, but I think even utilities in the US with two years forward supply of inventory, I don't see that as inhibiting anything once things start taking off here. It is an interesting analogy to draw, and I think you could make an argument that the conditions are even more positive now than they were back in 2004, 2005.

**Mike Alkin:**

I said earlier that security of supply is what's more important to a nuclear fuel buyer and the price they pay. As I think about that and you think about, "Well, what's the fuel cycle for them," it takes them 18 to 24 months from the time they place an order to the time they get it at the nuclear power plant in the form of nuclear fuel rods.

As you look forward to 2020 you have about 30%, some say as high as 35% of their needs not covered by contract. If I'm a nuclear fuel buyer the last seven years during this downturn I've been able to go into the spot market, because the Kazakhs had been there pumping it in and it's kind of been like a drug for the utilities, and it's further been exacerbated by these carry trades because it's just been there and it's there.

Now, these guys are smart, at the nuclear fuel plants, and they know how long it takes them to buy, so they know their needs, and the US consumes 30% of all the uranium that comes out of the ground, and so you would think that if there's a two year fuel cycle and they know that there are some dynamics at work in the market, and they can't be oblivious to THK because if they are that's irresponsible and the impact that the number one player in the world can have on the market, so you would think that they need to start coming into the market.



Now, I know in the back half of 2017 some of the utilities came out with RFPs, request for proposals, that they put to the miners trying to lock up some supply and nobody bit; the miners didn't like the prices, and so there was a game of chicken that was forming. My guess would be, and no, it's more than a guess that's done from primary field work, that they know they need to be in the market right now.

Then something called section 232 came along not a few months ago when Energy Fuels and UR Energy petitioned the commerce department to require the US utilities to buy at least 25% of their uranium from US miners. The reason they did that, obviously Scott you know this but I'm sharing this with listeners, is at one point if we went back to the '80s in the US ... Let's frame it, the US today consumes about 50 million pounds of uranium for its nuclear power plants, and back then it was in the ... Probably about the same, mid 40s, 50-ish million, but back then it produced ... It could have produced all of its supply, it produced as much; the US miners did-

**Scott Melbye:**

... 1980 was over 40 million pounds annual out of the US-

**Mike Alkin:**

... over 40 million pounds in '80, and then the wall fell and there was a bit of complacency; the Berlin wall and with the fall of the Soviet Union and the Russians and Americans, they had a very good relationship for years, it's not like it is today, the Russians were doing everything they can to befriend us after the wall fell and now we have a Cold War 2.0 so the geopolitical risks are quite high, and during this time, shockingly, the US has put itself in a position where they don't have a nuclear fuel cycle.

They have no enrichment capabilities of its own. It has one conversion plant to turn into UF<sub>6</sub>, and that's been shuttered for now because of pricing, and the uranium mining industry which produced 40 million pounds in 1980 produces 2.9 million pounds right now and it's basically on its knees. You work for one of them, UEC, and you guys are well positioned in this space, but the whole industry is just really on its knees and in crisis mode.

They have ... The two companies petitioned the industry, to the commerce department to get some relief there. From what I've heard, Scott, the utilities know they need to be in the market, and they would have come into the market this year but the 232 has delayed that a little bit. Can you share your thoughts on that?

**Scott Melbye:**

Sure. You're exactly right. When you hear that a utility has uncommitted needs starting in 2020 as an investor don't be put off by that, because ... You're right Mike, the procurement cycle needs to begin probably two years prior to that need being so. It would be logical that in the first and second quarter this year the utilities is going to return back to the market in what would be a more normal procurement cycle.

We had very low years in terms of long-term contracting by the utilities over the last six, seven years, much lower than average. At some point that has to change to where utilities start to make up for that. Now, we thought this was going to happen. Unfortunately an unintended consequence of that 232 filing is it has put some, the utilities in the US, kind of on the sidelines until they see how that shakes out and till they understand what the rules of the game will be with that.

I wouldn't be put off by that too much. The requirements aren't going away, it's just they're getting much closer to where they have actual needs and the procurement becomes more actual demand than discretionary the closer they get to those actual needs.

Yes, [inaudible 01:28:53], and the 232 filing I think you have to put it in context of the Trump administration. I'm sure the utilities look at it one way but I think if you look at it, it doesn't make sense that a country that gets 20% of its electricity from nuclear energy, 60% of its carbon free electricity yet is only getting 2% of its uranium supplies from domestic sources, and 20% of its uranium coming from Russia, 40% from Russia, Kazakhstan, and Uzbekistan, those countries; a lot of countries that could be impacted by the Russian development, there is a problem and I think the Trump administration would be smart and wise to accept the filing at the department of commerce and look into it and see ... I think the remedies can take a lot of different forms and I know the petitioners proposed a 25% quota for US mined uranium, that's certainly one way to do it, there's other ways and I'm sure those will all be [inaudible 01:30:04] by the commerce and the relevant commerce department and interested party.

For the US miners like UEC, who have preserved our assets rather than produced them; we shut in our [inaudible 01:30:16] mine in 2013 to wait for better pricing, in retrospect a very good move. We

would have wasted five years of production into a crummy market. Well, we're de-risking and getting our assets in Texas, and now in Wyoming ready to start up so we can contribute towards that increased need for domestically mined uranium. With or without 232 filing and petition we just think it's good business and that domestic utility would have a bigger component of domestic mines supplied in their portfolio.

The real irony in all this is it was two weeks ago we found that the Russian government was hacking ... Engaged in cyber-attacks on our US electric grid and nuclear power plant and at the same time those electric power companies in the United States are relying on 20% of their supplies of uranium from the Russian government. There's something that is profoundly wrong with that situation. Anyway, I think it will all be heard over the course of this year. I think the commerce department should respond any day now on whether the petition will be heard and then of course we'll go through a process of what can be done to correct the situation.

**Mike Alkin:**

I will say the bears in this space ... Their narrative to me is so tired. I keep waiting for something really novel and new to come out, because the onus at this point in the cycle is on the bulls. It's easy to be a bear at the table and say, "Yeah, but this, that, and the other thing," and the bulls, if you do your work you can look at it differently and say, "Wow, things can change."

One of the bears, part of the bear narrative is, "Well, if the price of uranium spikes to 30 bucks, the Kazakhs will just pump it out like there's no tomorrow." One of the things that I like to look at is their method of mining is in situ recovery mining or ISL is ISR, it's called different things, but it's basically like putting an oil and gas drill bit in the ground and you put a solution down and you pull it out through a series of pipes and it gets process, and it's a lower cost up front method of mining, but it can be expensive over time because you have to keep replacing the well heads and that gets expensive.

I think, when I think about the costs for the Kazakhs on a cash cost basis, it's obviously the lowest as we mentioned earlier but there's ... When you look on an all in basis, the cost to maintain those fields and to drill and to do everything else it's not quite as cheap as people think. What's your view on that and your view at 30 bucks they're going to keep pumping it out of the ground?

**Scott Melbye:**

Well, remember not all the mines in Kazakhstan are of the quality of, say, a Karata mine with cash cost and high [inaudible 01:33:33], that's unusual. Other mines have deeper deposits, have higher asset consumption, and so they have a little range of operations. You're right, they need new capital coming in for new developments, they'll need sustaining capital coming in for existing mines.

I don't think you should view Kazakhstan as a bottomless pit of supply. Under conditions ... When I arrived two years ago, two and a half years ago, they were already looking at a peaking of supply as it is over in this period of production peeking out and falling back down absent of new mine development.

I think what they've done with some of these production cuts is try to just bulldoze the peak off a little bit and push it down to the future. I think there's a limit to how much they can respond. There'll be some ability to respond, but I think when you add up everything that's out there at a very cost competitive level you're still needing new mine supply coming now in the next five years, which isn't going to happen with no incentive pricing present for people to spend the capital to do it.

Again, that's where I kind of like our positioning as an ISR producer in the US. We have operations which are quite scalable that can respond quite quickly and at a low ... We had \$22 cash costs out of our Texas, [inaudible 01:35:14]. We think that we can replicate that at [Rock Hollow 01:35:20] and certainly the Powder River basin has very competitive ISR resources as well. We're anxious to be able to scale up and meet that.

If you step back and you look at the global supply and demand, if all the US ISR producers all ramped up their operations it would be very profitable for them in a \$40 market but it's not going to bring enough pound to really stem the [crosstalk 01:35:45]-

**Mike Alkin:**

... not even close. That's the thing, is for the US miners it's good, but with the deficit that I see right now ... I know some argue there's a surplus, I could not disagree more, I think the world is in a serious deficit right now and that's only going to be exacerbated next several years with no new production coming online, mine closures, and the cascading waterfall of new reactors coming online, who by the way use two and a half times the amount of uranium, some say three times on an initial fuel load, but yes if the

US comes online it seems to me if everything was produced it still wouldn't really matter that much, but except for the US miners it would be good.

**Scott Melbye:** Yeah, it would be good for us but it wouldn't ... Yeah.

**Mike Alkin:** Yeah, it'd be great for the US miners but to the world supply demand deficit it doesn't impact it terribly. Any parting words for the listeners?

**Scott Melbye:** I think that's the investment thesis for uranium right now, and I think you've touched on it; it's awfully easy to just fall into the conventional wisdom that, "Oh, the market is over supplied, there's too many inventories, this and that," but when you really start to peel back the layers and you look at the fundamental developments we've seen on production cutbacks, on de-leasing their transfers, you see underfeeding will decrease in coming years and above ground inventories are being consumed much more rapidly now with these production cutbacks, we can get back and balance much more quickly than we anticipated even two years ago.

Demand, I think you're seeing around the world continued growth in nuclear power driven by the emerging markets. I think as investors we're looking for these unique opportunities to take advantage of things where perhaps everyone else doesn't see them. If everyone saw this then it wouldn't be an investment opportunity. Mike, I think you're on the right track here really dig deep on all these various factors and keep your listeners advised. It's really been a pleasure to visit with you today.

**Mike Alkin:** I'm sorry. Was that an Arizona State Sun Devil just complementing an Arizona one?

**Scott Melbye:** Well, you're my best friend from U of A.

**Mike Alkin:** Scott, thanks. We'll speak soon, and I'll have you back on.

**Scott Melbye:** Sounds good. Thank you Mike, take care.

**Mike Alkin:** Okay. Thanks buddy, take care.

**Scott Melbye:** Bye.

**Mike Alkin:**

Bye, bye. I hope you enjoyed the interview with Scott Melbyee, president of UEC and 30 year industry veteran. If you're a contrarian investor, uranium is the space. Like I said, for me it is the best risk reward of any industry I've ever seen. It doesn't happen overnight, you have to be patient, and it could take a little while.

I've been looking and talking about this space for a year, but I'm looking downside versus my upside, and I think it's just the asymmetry is spectacular. I will be back next week. I hope you enjoyed, like I said, I hope you enjoyed the conversation with Scott. I'll be back next week. I'll have a very interesting guest for you that's already pre-booked. I hope you have a great week. Happy investing.

**Announcer:**

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