

Uranium Series Special: COVID-19

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Daren: Welcome to a special edition of the Azarias Capital Management uranium podcast series. Coming into 2020, we were very bullish on uranium based on our forecast for a supply shortfall beginning as early as 2021. But COVID-19 has upended the entire global economy, so it's a reasonable question to ask how that might impact our uranium thesis. As always with a commodity cycle, the answers can be found by looking at any changes in both supply and demand, and today's episode is dedicated to answering those questions. I'm Daren Heitman, the founder of Azarias Capital Management, and I'm joined by my colleague and partner, Chris Gillespie. COVID is the big news or has been the big news so far in 2020, obviously, and it has had different impacts on different commodities. Let's just start with demand. So, Chris, it's pretty well-known right now that the world is in the midst of a COVID-generated economic recession. And the only question is how long will it last and what does the slope of

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recovery look like? And that generally would disrupt a commodity-related supply and demand thesis, which is what our uranium thesis is; highly dependent on a supply deficit that we expect to play out over the next year or two. Usually, a bull thesis is disrupted because of a recession-related decline in demand. So, what is our view of the impact of COVID and a global recession on our demand estimates?

Chris: We don't see a huge negative effect on demand for uranium as a result of COVID. Uranium is baseload electricity, so that means it runs twenty-four-seven and is very reliable. It's also very inexpensive on a variable cost basis, so it's not going to be at the high end of energy sources that are going to be cut. For example, here in the U.S., as energy demand declined as a result of COVID, we saw very large cuts to coal-fired electricity but much smaller cuts to nuclear-fired electricity. So, there are certain instances like, say, France, where they get seventy percent plus of their electricity from nuclear. They're going to see a hit, just because most of their power comes from nuclear and energy demand is down. But, you know, overall, we would not expect to see a very large hit to uranium demand—maybe low single-digit-type numbers. We think demand is going to remain fairly strong. That's very positive when we compare that to other commodities. And I guess part of that story is: in addition to nuclear being baseload capacity, there are also eight new nuclear power

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plants that will come online this year, so that increases demand as well.

Daren: So, electricity consumption is economically sensitive; there's less industrial activity, mostly, and that decreases the demand for electricity. As you just said, most of that is absorbed by other fuel types, primarily coal and natural gas. So, in the past, what happened to nuclear power generation in other recessions—particularly 2008, which was a pretty severe global recession?

Chris: Yeah, so we've gone back and looked at the effects on demand to nuclear power over the last three global recessions and on average, actually, demand went up because, as I said before, it's much more a story of whether there's new plants coming online as opposed to nuclear demand being affected by a recession because, like I said, these are low costs, they put out a lot of cheap energy, so they're designed to run under almost all circumstances. So, in the past recessions in most cases there was actually a new supply of nuclear reactors coming online, so that outweighs sort of the minor negatives to demand as a result of an economic slowdown. In 2008, there was actually a decline, but we think that's more explained by some specific closures that happened as a result of countries entering the E.U. and things like that. Just overall, in a basic recession, demand for uranium as a result of nuclear power has increased over the last

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three recessions so, again, just sort of highlighting the fact that it is baseload power that is designed to run at the bottom of the stack.

Daren: So, going into the COVID crisis we expected consumption to be around 190 million pounds in 2020?

Chris: That's right.

Daren: And so, our new estimate is 185, 190?

Chris: Yeah, something like that, I would say.

Daren: Basically, cutting five around million pounds of consumption out.

Chris: Yeah.

Daren: And in terms of what we already know, France announced they were going to cut back on their electricity generation in 2020, as a result of a decrease in demand. Because of their policy, they actually spread out that impact across their entire fleet of generators, regardless of fuel type?

Chris: Basically. Yeah, I think that that's what they try to do for the most part, yes.

Daren: So, that's why France in particular is going to

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generate less electricity from nuclear power plants, but it's not really because the nuclear power plants are vulnerable it's just, as I said, they spread it out across their fleet and that's really where most of that consumption decline occurs. Is that pretty fair?

Chris: Yeah

Daren: Alright so—so a little bit of an impact, you know, a couple percent impact on our demand model. But now let's talk about supply, because when it's all said and done, COVID actually is very supportive of our bullish thesis, which requires a supply deficit in the next couple of years. We already defined that the demand risk is maybe five million pounds, but that's more than offset by what we already know the supply impact will be. So, maybe walk through some of the biggest news items that we've had here to date and quantify what that's doing to supply.

Chris: We've seen, so far, in late March Cameco announced a four-week shutdown of Cigar Lake that then in April they extended it indefinitely, and that's a mine that produces 1.5 million pound a month mine—eighteen million pounds a year. And so that's been closer to three months now, so that's four-and-a-half million plus pounds of production that has not happened. And then, also in early April, Kazatomprom, the Kazakh miner, announced that, in order to comply with the country's lockdown, they were going to have to stop

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well formation, and so they predicted that that was going to result in about a ten million pound reduction in supply out of Kazakhstan for 2020. So, right there, there's about fifteen million pounds that have already gone away from our original estimate of about 135 million pounds of production for 2020 out of the mines. Namibia also had a shutdown, and I think that was about a month although we haven't heard if they've reopened or not, so that would affect the Husab mine and the Rössing mine. Put together that's probably maybe fifteen million pounds, so that would be another one, one-and-a-half million pounds a month, as well. We've already seen somewhere in the neighborhood of fifteen to twenty million pounds of supply that has been taken off the market this year. And then, you know, as we look forward Cameco has not made an announcement that they're going to restart Cigar Lake. It seems unlikely that they're going to open that until circumstances around the Coronavirus change so, as long as that stays closed, that's another one-and-a-half million pounds a month. And then, Kazakhstan is actually seeing a ramping up of cases again; I think their story seems fairly similar to the U.S. Again, my guess is that the things that they shut down are unlikely to open, at least for the next four weeks and probably longer than that. And so, if we take the run rate that they gave us—it could be higher because their annual production is more than forty million pounds, but if we just say that three months equals ten million pounds, so every month that that's shut

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down that's probably another three, three-and-a-half million pounds. So, if we look at it, going forward, as long as Kazatomprom and Cigar Lake stay closed, you know that's probably another five million pounds a month that doesn't get produced. We actually don't know what's going on in Namibia; there's no information. I'm assuming that that reopened, but I don't know. So, we're down fifteen to twenty million pounds and, you know, that's gonna continue at a rate of five million pounds a month until we hear that Cigar Lake and Kazatomprom are back.

Daren: Right. I think you did a great job of explaining it, but I just want to reiterate that that twenty million pounds that we've taken out of our supply model for 2020 is not an annualized number. That's how much we know is already not produced relative to expectations. And then, if nothing changed between now and the end of the year, that's another thirty to forty million pounds that won't be produced, so our demand model would go down by another thirty-

Chris: Thirty million, yeah. On a base, again, of 135 million so, you know, you're getting up to, if these don't reopen, forty-five, fifty million pounds of shutdown out of 135 million. So, that's a significant, substantial hit to mine production.

Daren: So, there's two impacts from that. So, one is just

purely psychological; and now I'm just speculating, but this supply disruption—an unexpected supply disruption—could potentially make the utilities look at their forward contracted book and be nervous about it. It could just change the psychology of the marketplace, and participants might start to get a little bit more worried and maybe even, in a really bullish case, panicked about securing future needs. From a modelling standpoint, the quantitative standpoint is that we went into this year thinking that there was excess inventory, which was why the price was still low, but we had a model that showed that we would work through that excess inventory, based on our pre-COVID predictions, by, say the middle of 2021, maybe the end of 2021 if we want to be conservative. So, with this twenty to maybe sixty million pounds of production that did not occur, that just pulls everything forward. And, I guess, to quantify that: we entered this year thinking that maybe there was a hundred million pounds of excess inventory in the world.

Chris: It depends on how you want to look at it, but if you assume that half of the Japanese buildup, post-Fukushima, was sort of available out there, that would put the peak at ninety million pounds of available inventory, mobile inventory. We thought that actually there was about fifty million pounds left, and we thought we were gonna go through twenty-five to thirty. Now, with this twenty gone, we now think that

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that mobile inventory will be used up by the end of this year, and then if these mines don't reopen that means it's going to be used before the end of this year, so sometime in the back half of 2020.

Daren: Right. This really pulls forward the depletion of excess inventory that we had estimated was out there. Now, unfortunately that's not a really pin-pointed figure, so we still could be wrong—maybe we underestimated how much inventory was out there—but regardless of the accuracy of our estimate, we know that we're at least twenty to sixty million pounds closer to the depletion of that inventory, and so it just makes our margin for error even better. And looking out to 2021; because of the way that Kazakhs get uranium through the ISR mining process, 2021 production from Kazakhstan will likely be impacted by what's happening today.

Chris: Yeah, I think—I guess it's important to point out that the ten million in cuts that the Kazakhs announced actually doesn't take effect until right about now, actually. So, I think they have three months of lead time where they do the well field activity, which then allows them to produce there, so they stopped the well field activity three months ago. So, once they announce they're going to go back to business as usual, it's going to be at least three months' time going forward before they can get back to production again. So, if this lasts beyond the end of

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the third quarter, their production is going to be impaired in 2021.

Daren: And then the last detail that I thought was worth expanding on was that Cameco shut in their McArthur River mine, an eighteen-million-pound mine, in 2018, based on the economics of the industry. So, they said, "Until we can sign long-term contracts to produce uranium from this mine, that's attractive"—and they've said very publicly that, again, they'll have to be at least in the forties to even consider it—"we're not going to start up McArthur River." So that's shut-in capacity unrelated to COVID. But Cigar Lake, another huge mine, also eighteen million pounds—again, ten percent of global supply—they shut that in because they were trying to protect the indigenous population from COVID and their workers. So, the decision to close it was COVID-related, but the decision to reopen it could be exactly the same as McArthur River, so they'll reopen it when the price justifies it. I don't think they've said that explicitly, but they've come really, really close. That's a big deal, too. So, it's kind of COVID-related but it's also supply that's offline potentially until prices recover, so there's a lot of tailwind to the price going up.

Chris: Yes. Yeah, that's right. And, you know, when you think about this situation, it's not that dissimilar from the situation in the 2000s that led to the bull market there. What happened was, Cameco was about to

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bring Cigar Lake on and the mine flooded, and that led to a much longer closure and the market did know that; but still, it led to the situation that you were talking about earlier, where utilities started to panic about their sources of supply, and we don't know exactly where the inventory levels are but, if our numbers are in the ballpark, we think there are gonna be some people that are gonna be scrambling for inventory relatively soon.

Daren: Yeah, and now I'm really getting off the specific topic of COVID, but I get fired up when we talk about this because the last time there was a bull market—yes, it was because Cigar Lake flooded, and that was an anticipated new supply that went away and people panicked and the price skyrocketed, but in that year the industry still expected some two very large incremental sources of supply. That was also the period where the Kazakhs were ramping up; now, maybe the market was skeptical of the Kazakhs' eventual production capacity, so that might have played into the bull market—

Chris: Yeah.

Daren: But it was during that period that, you know, they added thirty million pounds to the market on an annualized basis.

Chris: Right.

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Daren: But I bring up both of those things, that the visibility to incremental supply at the beginning, in the midst of that bull market, was way, way better than it is today. We know about the shut-in capacity, but after the shut-in capacity there is no really big source of incremental supply for the next seven, eight years.

Chris: Yeah, that's right. That's gonna be a problem, I think.

Daren: Yeah. I love it, I mean that's probably a good place to [stop] because it's definitely off the subject of COVID, so to wrap up COVID: there might be some demand destruction. I wouldn't be surprised if actually consumption is flat because France's decrease could be offset by the eight new reactors that are coming online, or more. And regardless of what happens on the demand side, we know, without any doubt, that supply went down more this year, and it's very likely that that's going to be true in 2021, as well. And so—

Chris: Yeah, that's right.

Daren: COVID actually supports our bullish thesis, it makes supply even tighter, it actually turned out to be one of the areas that it's good. And actually, maybe we should comment on the spot price of uranium, which is somewhat of a proxy—it's not a perfect proxy for

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supply and demand—but the spot has actually done pretty well this year.

Chris: Yeah. Once these closure announcements came through by Cameco and Kazakhstan, the spot price for uranium went from the mid-twenties up to the thirty-three, thirty-four level and has just stayed there. And so, the market says, “Okay, we just lost fifteen million pounds. Maybe it’s gonna be harder to find uranium.” And again, it is possible that, with the Kazakhs’ supply just starting to be cut here, that could also affect the market, because [there] actually hasn’t been a supply cut from Kazakhstan as of yet. It’s coming right now.

Daren: Yeah, and then maybe..At least for me, one final thought on the spot price I don’t even think we’ve touched on yet, but if the Kazakhs do have a continued decline in their production in the second half of 2020, and we know Cameco is also gonna have almost no production in the second half of 2020, the two biggest producers of uranium could be in the spot market trying to buy spot inventory to fill their long-term contracts. The spot market isn’t really what drives the economics of the uranium industry—we’re gonna cover that in our next podcast when we talk about long-term contracting—but, having said that, sentiment can be driven by what’s going on with the spot price, and there might not be enough uranium in the spot market because of what we talked about with inventory;

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if there's not a lot of excess inventory laying around, which is what our thesis is, Cameco and Kazakhstan both being in the market trying to soak up volume to fulfill their long-term contracts could be a huge deal in the second half of 2020.

Chris: Yeah. Yeah, I mean we already know that Cameco's inventories are extremely low. They've already been in the spot market; before they closed Cigar Lake, they were in the spot market, so that just creates more demand. When your producers are buying instead of selling, that probably is bullish for the price.

Daren: That's right. You're understated as usual; I appreciate that, Chris. Well, I really can't wait to do our podcast on long-term contracting, because that ultimately is why we're so bullish, and I don't want to get too far ahead of myself here, but we will go through that. But the whole point is that, you look out a few years, there just is simply not enough uranium supply, and so we'll go through that and why that matters in more detail—why that could matter right now. You know, even if the supply deficit's in 2026, the long-term contracting explains why that matters right now.

Chris: Alright. Looking forward to it.

Daren: Thanks, Chris. Yeah, me too. Alright, talk to you later.

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