Exchanges at Goldman Sachs
Copper is the New Oil
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Host, Allison Nathan
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Allison Nathan: This is Exchanges at Goldman Sachs where we discuss developments currently shaping markets, industries, and the global economy. I'm Allison Nathan, a Senior Strategist within Goldman Sachs Research.

My guest today is Nick Snowdon, also of Goldman Sachs Research, who's out with new research on copper and its critical role in meeting the world's electricity needs. Nick, welcome to the program.

Nick Snowdon: Great. Thank you. Thanks for having me.

Allison Nathan: Nick, you and your team published a report earlier this year that said that copper is the new oil, meaning that it's now the strategically most important resource in the commodity complex. Why is copper so strategically important today?

Nick Snowdon: Well, I think when you look at the Paris Climate goals and, ultimately, the path to net zero emissions, if that's going to be achieved predominantly via abatement, i.e., via electrification and renewable energy, then copper is going to be the most critical raw material to achieving that goal because it's the most cost effective conductive metal. It's used in capturing, storing, transporting electricity.

And when you look at the really key areas of the green economy, whether it's electric vehicles, electric vehicle infrastructure, renewables, wind turbines, solar, copper's used in much more intensive volume levels than in the old economy equivalent.

But I think the other parallel to oil, and certainly oil in the 2000s, relates to the lack of supply side preparation for this demand boom. And I think that's equally important to why we're talking about copper. Because I think you've got this very strong green demand story. But you also have a supply side that's completely underprepared. There's no real investment in new mine projects. And so, essentially, the copper market is sleepwalking into, you know, a really sizable supply crunch akin to what we saw in the oil market back in the 2000s.

Allison Nathan: But in some ways we've seen climate change, obviously, coming. And these different efforts to mediate it building over many, many years. Why has the copper industry been so caught off guard?

Nick Snowdon: Yeah. I think, ultimately, it's only really over the past six months or so that you've had a real awakening to, one, how powerful the green demand volumes are going to be over the course of the decade. And I think that does relate to a shift in policy. You know? For the first time, really, you have US, Europe, China all extremely front footed in terms of decarbonization policy targets. That now we can see already starting to feed through into growth and capital flows into the key parts of the green economy. So, I do think that's new.

I think if you go back six months ago or a year or two ago, it was a bit more theoretical. Now we can really see that the policy initiative is driving rapid growth in those sectors. So, I think that's really important.

But I think the other reason why now is the time to really sort of focus on copper is the fact that the supply side is not reacting. Over the last 12 - 18 months we've not seen a single, new major copper project being approved. So, despite this very powerful green demand narrative, despite also very high copper prices, it's a complete state of inaction from the supply side. And so, that really means this supply crunch is becoming very real. And I think, finally, because of the long lead times in supply response, because it takes four to five years for a copper mine to be developed, even if it's just an existing mine, and even longer for a new mine, we have to address the issue now because you can't wait two or three years down the road because by then it will be too late. And you know, essentially, we're sleepwalking to huge deficits and scarcity. And prices will have to rise even higher than is currently our base case.

Allison Nathan: So, how do you see all of these dynamics affecting copper prices? Where do you expect them to go over the medium and longer term?

Nick Snowdon: Yeah, so, we essentially see a progressive path towards the mid teens for LME copper prices in dollars per ton. So, into 2022 we see copper prices averaging around 12,000 dollars per ton. From today's price at around 10,000 dollars per ton. But then into 2024, rising to 14,000 as an average and then

15,000 as an average. So, really to achieve that average price path, it's quite possible that copper will rally to the mid teens or mid high teens by the middle of the decade.

Now, you know, what's going to drive that is ultimately going to be a progressive set of very tight, fundamental balances. And that starts now. The global copper market this year is set to be in a pretty deep deficit with very low inventories as a starting point. And into 2022 we see that deficit continuing. So, you'll have a very classic story of inventories falling to very low levels over the back half of this year and into next year. And very tight conditions underpinning that rise in price.

'23 will be a bit of a pause because the market moves into a modest surplus. But then again, from '24 and '25, those really big deficits start to emerge. And I think the key is by the early second half of this decade, that's when you start to see some really mega sized deficits emerging that have to be solved now through very high prices and stimulating supply.

So, ultimately, the price raise is underpinned by tightness now and through the course of the next four to five years.

Allison Nathan: If we think about the demand coming from climate change, obviously we envision it happening over many years, you know, years if not decades. Where is the demand coming from now that's leading to such tight on metals?

Nick Snowdon: Yeah, so, I think demand that's really tightened the copper market as of today is your kind of classic, old, industrial demand centers. So, things like manufactured goods, construction. We can see that the global manufacturing supply chain currently is really booming. Western households are being durable goods in a very aggressive manner. And I think that's going to be a key driver of demand trends over the next 12 - 18 months.

Green demand is there. We already have around a million tons of green demand in market as of 2021. But that only represents around 4 percent of global demand. But it's over the next two to three years that that green demand channel really starts to take off. By the middle of the decade, green demand will have risen to around 2.5 million tons of copper a year, which is going to be close to 8 - 9 percent of global demand. And then by the end of the decade, it will have risen to just under 6 million tons of copper demand a year, which by that point will be close to 20 percent of global demand.

So, right now, you know, in absolute terms, green demand is not really the key force tightening the market. But over the next few years it will really compound into a significant driver of the market.

And I think when you look at it over the course of the decade, the volume growth from that channel will be equivalent to what we saw from China during the 2000s and first half of 2010. So, you know, you can't overstate how significant it will be in terms of demand impact.

Allison Nathan: You've talked about the fact that the industry is behind in meeting this upcoming demand. How will the industry solve for that?

Nick Snowdon: Well, I think ultimately it will be solved via, one, a necessary surge in mine supply investment. And we're right at the very beginning of that process. We haven't seen a single major copper project approved over the past 18 months. And we need to see a record volume of copper mine projects approved.

The long-term supply gap in the markets, so when you look forward ten years, that gap currently stands at just over 8 million tons, so nearly 40 percent of the size of the market in terms of the long-term shortfall. That's larger than anything we've seen in the history of the copper market. So, we need an enormous number of copper mine projects approved.

There is enough copper out there. This isn't a story of the depletion of copper ore. But there is a very limited list, currently, of copper projects. And the quality of those projects is relatively low. So, really to get from where we are today with no investment to solving, you know, what is the largest ever long-term supply gap, you're going to have to see an incredibly high copper price to stimulate a shift in mining sector stance. Now, I think that will start to happen over the next year or so. And it has to happen given the lead times on price.

The other part of the market solving this significant forward supply crunch is based around shorter cycle response channels such as scrap and substitution. So, we do think that prices surge, we'll also see a significant increase in copper scrap supply. We think over the course of the decade, it will rise by nearly 4 million tons, so about a 50 percent increase in global scrap supply. So, that is really going to be an important channel of influence. It has to grow. But on its own, it will not be enough to solve the long-term supply gap. You have to have a really significant increase in mine supply investment.

Allison Nathan: Why is there such an obstacle to mine supply investment? Why do we have so few projects getting approved right now? What are the key obstacles?

Nick Snowdon: The reason why the project list right now is so short, and the quality is low is because the mining sector for the last decade has been on a very conservative setting in terms of balance sheet activity. So, they haven't invested in new mine projects. They haven't invested in exploration or early stage project development. So, you know, really the quality of projects compared to ten - 15 years ago is very poor in that context.

Now I think the next question is, you know, we can understand that. But we can also see prices are now at record levels. Surely that should start to generate a shift in supply side attitudes towards growth. And the evidence so far is to the other direction. There are still a lot of constraint.

I think there are four factors driving that. One, you have to go back to the early 2010s to see the last point when the mining sector swung aggressively towards growth. And shortly after a collapse in price that really sort of punished any producer who invested heavily in new projects. You know, a number of management teams lost their jobs. And that memory lingers really amongst the current generation of producer management. So, I think that's one key factor.

I think the second is due to COVID. Certainly, you know, COVID from an operation standpoint really creates challenges in doing anything new at an existing mine site, let alone a new mine site. You know, it's difficult to move labor around the world globally. Machinery. Supply chains are incredibly tight. So, I think until COVID is no longer an operation challenge, it will be very difficult to do anything new. You can announce it, but actually kind of progressing a project would be certainly a channeling.

A third key factor, ultimately, relates to the challenges of ESG and the focus on the environmental and social issues, which are very important. But equally, you know, they do lead to much more extend early stage planning processes for mines. So, getting a permit for a new project really is going to take a significant period of time.

I think the final challenge, really, for producers, and this goes back to the first point, but the quality of projects is a lot lower. The costs are higher. So, it's not an easy proposition of saying, "Okay, let's just invest in growth." Because the economics are not as attractive as they were if you go back to the mid/late 2000s. So, I think all of those are combining to generate this restraint. And you know, really, the only thing that can break that has to come from price dynamics and an incredibly high price. And we don't think the current price is, yet, at the level to generate that shift.

Allison Nathan: Earlier this month, you and your team held the inaugural GS Copper Day. You hosted management teams from seven global copper producers. Are you getting any indication from them that this investment mindset is shifting? Or what were the key takeaways from the event?

Nick Snowdon: Yeah, so, I think that the Copper Day was really fascinating in that respect because our key focus was, is there going to be any indication given how strong copper prices have been over the last two to three months that management thinking around growth was starting to change? And the answer was pretty clear, no. Not a single one of the producers there indicated that they were looking at new green field project development. You know, they've got a number of existing projects that everyone knows about and already expect to be approved. But nothing new and nothing kind of large scale to somehow shift the overall perception of constraint on the supply side.

Now, you know, they were very clear about the factors restraining that. But I think permitting was a big issue. They look at new projects and the lead times on getting new projects off the ground, the additional costs are new much higher than they were a decade ago. And I think that just leads to apprehension. And also, interestingly, in terms of inorganic growth options, you know, buying growth via companies, because of the very high copper, they're already seeing sellers of assets push up price. So, they're not really inclined to go out and buy growth from other companies either.

So, I think the only way that can change is, yet again, coming back to the copper price. That has to be the key incentive driver to shift the mine executives' stance.

Allison Nathan: Were there any other key takeaways from the event?

Nick Snowdon: Well, I think there's a lot of focus on green transition and the kind of demand effects there. You know, there's certainly a belief that over time you will start to see consumers of copper differentiate by the carbon footprint of production. And so, there's an expectation that there will ultimately be a green premium for copper. You know, it's not necessarily clear cut in terms of timeframe, but there is a belief that if you're a producer and you really are investing in lowering your carbon footprint in the production process, then you will benefit in terms of the customers that are willing to buy your copper versus, let's say, non-green producers. So, I think that's a pretty entrenched belief.

But I would say, you know, just a key takeaway was that there's no evidence of a pivot towards growth. A number of reasons as we've already discussed were listed for that. And I think that was really surprising to everyone because they expected some shift with the fact that copper prices, you know, rose to a record level that week. But there was no evidence of that.

Allison Nathan: How much of a role do you expect China to play in this evolution towards a copper super cycle?

Nick Snowdon: So, I think this is the really fascinating point around the distribution of green copper demand. Because when you look at the regional breakdown of where that significant growth in green demand is going to come from, it's not a China story. China will represent around a third of the 5 million tons of growth that we're projecting for this decade. But the US and Europe will both represent around a quarter each. And the rest of the world quite a substantial residual portion. That's a very different demand environment to what we've seen over the past 20 years for copper.

If you look at the demand growth composition over that previous 20 year period, China, essentially, generated all of it. Copper has been about China. It's been about Chinese construction. It's been about Chinese credit cycle. That's all changing. We're now in an environment where demand is a lot more balanced in terms of geographical composition. And so, for once we do now care about policy developments in Brussels and DC, you know, as much as Beijing. And I think that really makes copper a much more attractive investment proposition for folks. It's far less China-centric and tied to a broader global thematic.

Allison Nathan: So, what would you say is the key message for investors?

Nick Snowdon: Well, I think the key message is that even though we've seen very strong run up in prices over the past year, and now at record levels, we think this is only the first year of a multi year bull market. Clearly, in the near term the market is going to remain tight. We have deficits over the course of this year and next year. Inventories will be run down to very low levels, we believe, by the middle of 2022. So, that will be a very powerful output influence on price over the next 12 months. But then there's also this really significant supply crunch that we talked about that plays out from the middle of this decade onwards. And given that the mining sector is really still in a very restrained state towards growth, it's going to take a multi year period to solve that.

As I've reiterated through the call, current price levels are not generating the kind of shift towards growth yet. And so, until there's a really sharp increase in mine investment and capex goes back to the levels that we saw in the late 2000s, and we're only about half that currently, I think we're a long way from declaring mission accomplished. And so, I think that's really the key message. Year one of a multi year bull market really lies ahead of us.

Allison Nathan: Thanks for joining us today, Nick.

Nick Snowdon: Great. Thanks for having me.

Allison Nathan: That concludes this episode of Exchanges at Goldman Sachs. Thanks for listening. And if you enjoyed this show, we hope you subscribe on Apple Podcasts and leave a comment and a rating.

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