SM53 | 1.22.2022
What Are Smarter Markets? | Episode 2
Josh Crumb, CEO and Founder, Abaxx Technologies

In this second episode of our three-part series, host Grant Williams dives into the heart of the matter with Josh Crumb, CEO and Founder of Abaxx Technologies. Josh and Grant discuss the SmarterMarkets vision for how technology can be leveraged to redesign and improve markets to meet society's biggest challenges, including climate change and the energy transition.

Josh Crumb (00s):
And I think specifically what we're looking at and how do we solve these big questions. That really doesn't work with Sound Bites. You know, these are very, very big challenges that need very smart people to kind of tease things out and deduce things you know, and kind of open source their brains to the world. That's really what Smarter Markets is about.

Announcer (17s):
Welcome to Smarter markets, a weekly podcast featuring the icons and entrepreneurs of technology, commodities and finance ranting on the inadequacies of our systems and riffing on ideas for how to solve them. Together, we examine the question, are we facing a crisis of information or a crisis of trust and will building smarter markets be the antidote?

Grant Williams (45s):
This week on what are Smarter Markets, we dive into the heart of the matter with Josh Crumb the founder and CEO of Abaxx Technologies. Josh and I will discuss his Smart Markets vision for how technology can be leveraged to redesign and improve markets to meet society's biggest challenges, including climate change and the energy transition. Well, joining me now is a man who needs no introduction, and that is Josh Crumb, the founder of Abaxx and Smarter Markets, Josh, mate, it's always a pleasure to speak to you how you doing?

Josh Crumb (01m 13s):
Thanks, Grant and thanks for being part of this conversation to kick of the year.

Grant Williams (01m 19s):
I'm delighted to be a part of it. There's so much I can learn from guys like Jeff and yourself, it's been a great privilege for me to be a part of it. So thank you for letting me have the opportunity. After my conversation with Jeff, I was looking forward to talk to you and a big part of that I don't think anybody listening to this is going to need an introduction to who Josh Crumb is, but I think it would make sense perhaps to talk a little bit about Smarter Markets, you know, on the first time you graced your own podcast, which is always a great thing I've done that myself on occasion, it's a tricky thing to be and you pull it off beautifully. But I think, I think letting people understand a bit about what it was that made you start Smarter Markets, what the idea is behind it, and what Smarter markets really means to you.

Josh Crumb (01m 58s):
You know, instead of giving you know, my own origin story, I think maybe this is the first time I should give the Smarter Markets origin story. So you know, funnily enough it goes back to a village in Southeast Asia. I was there with Robert Friedland, you know, a few years back and, you know, we got on the conversation of, you know, what's happening in media and financial journalism and actually, in many ways, inspired by, you know, people like yourselves, who really brought this sort of alternative media and long form conversation to the finance sphere. I was talking to Robert, a number of his guests about podcasts and about these conversations and it was funny enough. Robert actually hadn't listened to a podcast before and so he gave me which is not because Robert, perpetually lives 10 years

into the future right. So you know, and he hands me his Apple iPhone, and have some of you that may know, Roberts background, actually, he had a lot of influence on Steve Jobs so and that in itself was again it was sort of an irony to all this and so the first episode I download for him is the Edward Snowden conversation with Joe Rogan and he proceeded to disappear for about 3 hours right and I think most of his guests probably didn't like that, but you know that that was the origin story of Smarter Markets and we started talking about it and you know, and we said, you know, we should do a podcast and you know, this, this was actually the first podcast that Robert was ever on, was our first episode.

Josh Crumb (03m 25s):
And then the first podcast that Jeff Currie was ever on was our third episode and since then, we've also sort of broken some ice with a number of you know, CEOs and C-suites that have never done the long form conversation before. So, you know, for me, you know, anyone that knows me and I guess knows me, even as a CEO I am terrible at Sound Bites, you know, I'm much better or not, I wouldn't say better but I'm much more into having long form conversations and trying to tease out these issues and I think specifically, what we're looking at, you know, in these big challenges that you know, that Jeff also started off his podcast talking about inequality, talking about the energy transition, and how do we solve these big questions, that really doesn't work with Sound Bites, you know, these are very, very big challenges that need very smart people to kind of tease things out and to do things you know, and kind of open source their brains to the world. So you know, that's really what Smarter Markets is about and, and yet again, I had no Sound Bite, but this is where I want to want to go with Smarter Markets.

Grant Williams (04m 27s):
I think you're right, I mean, you and I've had several of those long form conversations over the years and I think having flexibility and allowing yourself the time to as you say, tease these things out. It's just a great way to do it. I think we I think the podcast audience is self-selecting the people that actually have the time and inclination to listen to long form conversations. Just revel in podcast because it's tough to get that sort of stuff anywhere else but podcasts these days.

Josh Crumb (04m 53s):
Absolutely and look in don't get me wrong, I love you know, listening to also you know, very good analytic, you know, podcasts, you know, you know, S&P Platts has a number of them that, you know, that are really, you know, very good analysts that are very well prepared, and go through, you know, facts and figures and I think that's also very, very valuable and something that really didn't exist much, you know, you know, that long ago. So, I mean, I think the medium and this availability of information is absolutely incredible for the people that want to dig and find things. One other one that I really liked, you know, a number of years back, I started watching some of the early YouTube episodes of Blitzscaling with Reid Hoffman, and you know, he was really, you know, you'd have a YouTube with 100 views and you get 2 hour long phone conversation with Eric Schmidt while he was the CEO of Google at the time and so I started putting my Wall Street analysts hat on, I was like, so you know, most of Wall Street's analyzing sound bites and, you know, very scripted and prepared PRs and yet, here's this 2 hour conversation about the history of Google and where he thought the real key strategies and things happened and I think that's pretty incredible that's out there. Right now, we just wanted to, you know, because we have access to a number of very interesting people in the projects that we're working on, you know, that's really what we wanted to dive into.

Grant Williams (06m 14s):
Yeah, fantastic. I think you guys did a great job with it. I spoke recently with Jeff Currie and as always, it was just a fascinating conversation. You know, Jeff's just mind is just phenomenal when it comes to the commodity space. A lot of what we talked about was the energy transition. So what I want to start with you with a pretty broad question, but I think it makes sense to define this, because for a lot of people, they struggle to put this into real terms. So just for people listening, how would you personally just frame what the energy transition is all about?

Josh Crumb (06m 46s)
That's a great question. And that's, again, one of the one of the keys of Smarter Markets is about asking big questions, rather than sort of projecting answers, you know, because, you know, I think David Greeley, who hosts a number of excellent series recently, in the first interview, we're going to where he was the guest now, because, you know, we do mix it up a lot. You know, he described it as, you know, do you really want to change the engine you know, while the airplane is still flying or, you know, do you want to plan things out and do it later. You know, the big question is, is there such thing as an energy transition. I mean, if you think about, you know, the path of, you know, energy sources and fuel sources as the industrial revolution grew, you know, typically, we brought on new energy sources, but we never really, you know, other than maybe a whale oil, you know, we didn't really ever shrink demand, or we just added new energies to the mix. So that's the big question is, can we do it this time you know and how do we do it. Do we need mostly offsets and sinks or can we actually, you know, decline carbon production, without, you know, without resulting in energy, poverty and so forth, so that is the big question that we want to keep working out and, you know, and it's going to take many, many years to work out.

Grant Williams (08m 04s)
Well, obviously, one of the big components of this particular transition is the urgency with which it's being mandated now, and the penalties that have been discussed, if we don't get this so that, you know, it's a little different to have an energy transition with a gun to people's heads.

Josh Crumb (08m 19s)
Absolutely and, yeah, like you said, that the gun to somebody's head, you know, I think some of the first approaches was just, you know, finding the choke points in the energy system and try to cut them off, you know, pipelines or you know, passes or, you know, and that sort of thing and then and then on the financial side, you know, you had sort of absolute mandates for divestiture, you know, institutional shareholding of anyone that owns anything that's, you know, "dirty" and I think that's, you know, that's going to turn out to be, again, very problematic as well. So where I am hopeful, though, is over the last, you know, couple of year and a half, maybe two years, that really has been a very big study and a very big internal change in the way a lot of companies are going about this and I wouldn't even say, well, there was a big, you know, big wake up, of course, with the energy shocks, and in Europe and Asia, in late 2021, here that maybe absolutely divesture is not the right path, because then you start hitting, you know real energy security issues. So, you know, this is an evolving conversation and, of course, you know, you know, there is the sort of you know, again, that the gun to somebody's head on one side, but there's also the, you know, we don't want to get, you know, we don't want to freeze in winter, or we or we don't want to, you know, limit fertilizer production, you know, because people will starve so I think both of those realities are now on the table and it was sort of always one or the other and I think that's actually what's going to make 2022 so fascinating, as we again, keep evolving this analysis in this conversation.

Grant Williams (09m 55s)
That's interesting. You've set me up perfectly for my follow up question with that which is with seen an enormous push from government particularly in on very public podiums that COP 26 was the most recent one and we've seen government's talking tough and wanting to send very positive, a very inclusive, very progressive messages about climate change and about this switch to cleaner energy, but we've also seen as you say, we've seen a period now of rampant inflation in relation to what it's been like for the last 25, 30, 40 years and we've seen governments start to make the kind of decisions that you and I as guys who believe in free markets almost expect of them all the wrong points in time. So do you think that this unfortunate timing that we have this inflationary pulse now coming through that really is hitting the energy markets extremely hard, which obviously bleeds through into food markets, two places that governments can't afford for there to be meaningful inflation. What does this do to the desire on the one hand to really push forward with new green agendas all around the world versus trying to stay in office in the next election when people are struggling to feed their families?

Josh Crumb (11m 05s)
Yeah, look, it's a great question and I think Jeff actually had a great, great answer that, you know, that at the end of the day, the politicians are going to reflect the conversations of their populace. So and I think that urgency, you know, after, you know, more or less, you know, five or six years of pretty cheap energy prices, that wasn't as urgent as some of these other issues. But you know, I think I think it'll be a big teller even in the US midterm elections later this year, how much has that really shifted some of I guess, more extreme measures that were coming through government the last few years? So I think it's a big, big question. But, you know, one thing that I think that Jeff maybe didn't touch on enough is just how much the energy industry has really taken the charge on this conversation and that's not just the energy industry, but the whole, you know, the whole manufacturing supply chain and ultimately, these companies are global and so they are looking at customer demand and stakeholder demand on a global scale that I think many of the politicians, obviously are not accountable to, you know, electorate overseas. So they, you know, you know, you could have a very progressive idea about labor in one place, but then sit there and criticize, you know, exporting of jobs to poor people in other countries now, itself is a little bit illogical. But if you look at what their actual incentives are, you know, they're not going to get any votes and those third world countries, right, so I think having the global perspective of industry is what's so fascinating over the last two years, is I actually think that industry has taken the lead on climate change and governments right now we're kind of in the back seat. So that'll be actually interesting to see how they react to that.

Grant Williams (12m 50s)
Just kind of following that thread, it's something I'm curious to get your thoughts on and that is central banks, central banks, have seemingly taken up the gauntlet here and decided that they are going to be partly responsible for solving climate change. What do you make of that, what do you think practically speaking, they can do if anything and is the fact that they're starting to make this one of their main talking points, deflection or is there genuinely something that central banks can do to contribute to climate change discussion?

Josh Crumb (13m 21s):
Now, first off, if you look at someone like Mark Carney, who's really taken the lead in, I guess, the sort of global financial initiatives in, you know, Net Zero policies and scaling carbon markets, he came from that sort of global central bank, where he was also sort of working on, you know, became sort of a global central bank are working on, you know, shared problems across the central banks. So I think part of it stems from that actual individual peer networks that, you know, are probably involved in similar conversations. But I think the second part of it probably comes from and again, this is all sort of the speculation, but I would say another part of it comes from probably a view that they had a lot more bond buying tools, and that they might have them for an extended period of time through you know, the great stagnation or something like that. I think the fact that inflation has caught some of it, so many of them off guard, I think, where their policy tools probably existed to influence this was, you know, again, buying more, say ESG friendly bonds and I just I don't see that on the table anytime soon. So it's hard to say where that will come from, other than, you know, kind of general forward guidance and in being part of the macroeconomic narrative.

Grant Williams (14m 35s)
I want to change gears a little bit because, you know, the one thing I don't want to do you and I is cover kind of similar ground to Jeff, I want to broaden out the conversation and part of that is something that you guys did really, really well on Smarter Markets and that is some of the conversations that seem tangential to what you're looking to do, but ended up being actually some of the best discussions you had and that's things like privacy, digital identity, and obviously, there's been all sorts of the advances in these spaces which we'll come on to shortly, but talk a little bit about why you broadened out Smarter Markets to topics such as privacy and digital identity and how you see those relating to what you set out to achieve?

Josh Crumb (15m 14s)
We got that question a lot when we first introduced Michelle and in fact, we spend a lot of time debating internally whether these are two separate podcasts and you know, when we risk user engagement by switching back and forth between the subjects. So I guess we

will get to some of my thinking on how these two topics actually converge and where we think the topics of defying energy transition funding start to converge. But first, it would be good to step back and talk a little bit about market information in general and how the evolution of trading markets is constantly evolving with the advances in information technology. You know, if we go back to economics, 111 of the first assumptions in a simplified supply and demand curve is perfect information and we all know that information isn't perfect and data is very messy, getting more abundant, ever more complex part of our global economy.

Josh Crumb (16m 08s)
So in 2021, was especially fascinating when we start to you know, really started to see the power of social media, and call it populist politics start having, you know, really impact on markets in a powerful way more powerful than perhaps ever before which, you know, going back to some of the things that Jeff said about populist politics, you know, the markets themselves are perhaps having, you know, an increasing role to play, when this kind of information enters the market in more transparent and more efficient ways with, you know, the most voices and the most sort of dollars possible and so, back to the intent of the podcast, you know, we think it's important to talk about, and try to tackle the important questions in markets, but in the market and information itself, but it will increasingly be important for traders and market participants to have a view on, you know, the structure of information in the market, and how this data and information moves to ultimately match some marginal supply and marginal demand. So we want to keep exploring, you know, emerging new information technology on the horizon and we'll continue to have conversations about, you know, open source software revolution, and web three, you know, self-sovereign identity and its role and, you know, digital title transfer, and you know, lowering costs and increasing trusts, you know, for market participants, but even some of the big underlying data issues of privacy and data governance, you know, so putting my, you know, Abaxx CEO hat on, you know, looking at Abaxx specifically being a new innovative company entering, you know, the land of giants and in commodity trading and Infotech, you know, we believe we are doing some innovative things, and our corporate philosophy is to open source a lot of the big ideas and big challenges, you know, as we talked about the big questions, as we advance our way through them. You know, there is an old adage in mining, that on average, it's not until the seventh explorer, or developer of a porphyry deposit, you know, some of the large copper gold deposits, you know, it's not till the seventh explorer developer that actually makes money on it, you know, typically six juniors or in our, you know, exploration programs and you know, shuffled somewhere in the outer regions, you know, typically fail, but they slowly increase the knowledge of the geology and the subsurface over time and the extraordinary complex project engineering, you know, get steady, and you know, how to get the ore out of the ground, you know, but each developer moves the dream forward and lowers the information entropy, and, you know, the uncertainty, you know, for getting that copper, you know, into the world and, and, you know, increasing the capacity of our electricity grids, each one moves us forward a little bit And, you know, that, you know, so that's the point of always trying to open source more and more of this information.

Josh Crumb (19m 02s):
You know, Abaxx is here, you know, plain and simple to solve big problems as entrepreneurs and capitalists and we want to move the world forward, no matter what, along the way and this podcast is part of it, you know, letting the market vote on the information, quality and the ideas and get that real time feedback, as we work through them. You know, that's just, you know, my personal view of how to how to solve a big problem and build a great business. So sorry, I guess, getting back to your question. I do think capitalizing the energy transition, you know, with the hard capital and capitalizing, you know, the information in the software, you know, systems of web two and web three, you know, the revolutions, you know, we're currently living in no, we do think they're linked, and that's been on my radar for many years as being linked.

Josh Crumb (19m 51s):
You know, if you look at 2021, I would say one of the big stories, or maybe the biggest story if we look, back, in retrospect, you know, 10 years later, you know who, who knows, but I think one thing was, of course, the rise of decentralized finance and the NFT market and a number of things that were happening in the, in the Blockchain ecosystem and I think the interest for me is that can some of these new technology revolutions, you know, really accelerate and provide a different path than the traditional, you know, debt and equity capital

markets you know, if there's one sound that I take away from 2021, is, you know, that might be the year that the efficient market hypothesis, you know, officially died, right.

Josh Crumb (20m 42s):
With some of the prices that we saw and everything else and again, this is sort of, you know, college dorm room conversation stuff here. It's stuff I think we're all trying to work out right now, but, you know, one of the questions I have been asking or thinking about it in terms of the asset class of a token, in defy or an NFT, is have we actually moved to a stage of for many years, capital markets, you know, we're really just driven by debt, right. And for the most part, like that's still the core of the global financial system, of course, our debt, capital markets. But really, what we saw is this rise of, you know, the limited liability company and equities and particularly over the last, you know, couple generations, you know, equities have featured more and more prominent, but one of the questions I've been asking, is there such thing, do we move from limited liability to sort of no liability companies or sorry, no liability assets and why would something have value if it's not a liability and really, I think the answer is in network effects. You know, we talk a lot about externalities from a negative standpoint, negative environmental externalities, but there's also positive externalities, in pooling liquidity and you know, in sort of net information, network effects. Again, I'm not saying that this time is different you know, I think, you know, Grant, you might come probably come from similar sort of no value investor schools of thoughts that, you know, this time was never different, but there is a new technology that sort of extend this ability of having assets with network effects beyond the typical capital structure And I think that might be, you know, something that's just starting

Grant Williams (22m 25s)
I guess the question is around pricing and how you value those network effects, because at the moment, there's a huge premium being put on every network simply because they can tag it with network effect and I wonder, having seen what we've seen in the last year, again, you know, there seem to an awful lot of threads coming together here and if the pressure on rates to go up continues, it's going to be very, very interesting to see how a lot of these speculative assets that are really in a very early innings of what I'm sure will be a very long game, but we could find a lot of these network effects getting rerouted in terms of price.

Josh Crumb (23m 05s)
Oh, absolutely. And I think, you know, although we try to produce these conversations that aren't so specific in time, but, you know, over the last few weeks, we've seen that in markets, right, we've seen a big divergence between, you know, network effect companies with actual business mode modes and profits, really diverging from ones that have great, you know, great top line revenue growth because of their network effects, but actually have not proven to be profitable businesses and again, I think the very outer risk of that limited liability to no liability assets, of course, are going to be, you know, sort of pure token type networks.

Grant Williams (23m 41s)
Is the idea of profitability it strikes me because when Jeff was talking about this transition, and how to tax carbon effectively, it was clear that profitability in in the commodity sector has always been extremely important, right. I mean that's always been the thing that has made and broken companies, they've not tended to have too much runway when they weren't making money. A lot has happened in the last couple of years for the commodity producers to get their balance sheets in shape, get themselves into a much better position. Does the kind of extra push towards ESG, does that present another hurdle for them or do you think a lot of these, these commodity companies have already taken the kind of steps that will allow them to move pretty seamlessly as the regulation increases?

Josh Crumb (24m 29s):
Yeah, well, again, I think the last, you know, call it 18 months, there has been a change in these companies and looking at other metrics, but that said, you know, there's a big argument to be made that knew these companies to be profitable and in many ways, you know, one of the big problems in Europe and in Asia this year, it seems to be you know, a little bit politically, you know, polarized whether you're pro-green energy or not, but at the end of the day, I think there's many factors at the end of the day, the energy costs companies didn't, you know, had very low, low return on capital for many years and that also influenced their, you know, their lack of supply

growth this year. So it wasn't just green infrastructure. So I think, absolutely, they need to be profitable. But you know one of the things that I think is a little bit dangerous is, we also want to try to make a lot of these companies something that they're not, I think, you know, if you if you want to focus on energy security we need these companies to be invested in what they're good at, while other companies are doing the heavy lifting in innovation and an alternative energies, In one example, is someone like Exxon, you know, obviously one of the largest energy producers and I think something like half of their production plans for 2030 comes from investments sort of started from, you know, after 2020. So if they just stop investment, and don't actually continue those investment cycles, in traditional capital, we're gonna see a fall off on in net energy supply, which, again, if you look at the events of ongoing events, but it started late last year, that's very problematic for the world.

Josh Crumb (26m 08s):
So one of my friends, Arjun Murti, who has also been on the podcast and has you know, fantastic sub stack, former equity analyst at Goldman, you know he makes the analogy of Netflix wouldn't be Netflix, if it was if it was forced to merge with Blockbuster, right. You don't want Blockbuster, you know, driving the change, you know, there's a natural evolution, and you want these companies really focused on what they're good at. So when you look at something like the energy transition, I mean, I think you're right, you know, you want them to be profitable, you want them to be focused on what they're good at but that doesn't mean there are things you know, with a change in mindset and a change of culture you know, one of one of the big advances on the environmental front, the last year was really, you know, the focus on methane and so if you if you think about, particularly some of the, you know, low capital returns of the shale patch, you had both environmental problems, and methane leakages, as well as low returns, which is sort of a lose, lose situation, but I think that the companies, you know, as they're more profitable are going to be more focused on cleaning up methane emissions as a big example and I think it was a lot of progress there. So I guess the short answer is you want these companies focused on they're good at, but at the same time being, I guess, probably more, more aware of some of the negative externalities, so they can turn those profits into solving those problems.

Grant Williams (27m 30s):
Yeah, but you know Josh, with that being driven by policymakers, that's a very tricky position for these companies to be in, right, because their natural path of least resistance is to become more efficient, to be able to produce at lower costs. We all know what they're incentivized to do and the existing environmental rules in a lot of the countries where the resources are primarily extracted from are only getting tighter as time goes by. So they're cleaning up a lot of the problems that we've had, particularly in things like gold mining space for many, many decades now inserting government into that at a time when they're trying to make political capital out of all this, just I don't know, I know, how on the point, but it just seems to me that is going to potentially become extremely problematic for these companies.

Josh Crumb (28m 19s):
Yeah, well, I mean, I think a little bit goes back to the point of they need to be profitable and that will change a lot of the conversation. So and again, it'll give them an ability to do more. So if you think about, again, one of the one of the more positive trends, in my view, you know, away from divestment, right, it was easy to divest a company, because it wasn't green if it wasn't making any money, either, right. So now we're in a in a different market, real people continue to have this this major cost of capital divergence, you know, because of, you know, certain metrics that may be, you know, forced either by, you know, some of the large, you know, fund management initiatives, or by outright you know, government regulations and caps. I think that's a that's a big question that remains to be seen, but I think one thing that has happened, and again, maybe this is a natural reaction from the market that doesn't want to divest in profitable companies, is, hey, let's not look at this as divestment, but let's score people around their improvement, right. So, you know, you know, again, I mentioned Exxon before, you know, that was a combination, you know, the activist, board nominations and the change of board from engine number one, you know, that I think that really has changed the culture internally, but again, that was a mix of upset shareholders combined with some of the new policies. So, again, it's having these conversations and I think the market is having a lot of these conversations right now, which is which is ultimately a good thing.

Grant Williams (29m 52s)
We are going to take a quick break and we'll be right back.

Dave Greeley (29m 56s):
We hope you're enjoying what are Smarter Markets with Grant Williams Please join us in February for our next series demystifying the carbon markets hosted by myself Dave Greeley, Chief Economist at Abaxx Technologies. Corporate climate pledges went mainstream in 2021 as CEOs and Boards of Directors responded to increasing pressure from ESG minded investors, banks, employees and stakeholders. Moving into 2022, these companies are increasingly focused on developing and implementing plans to turn their climate pledges into climate action and understanding how carbon markets can help them turn their good intentions into meaningful change. For many, however, carbon markets remain unfamiliar, creating apprehension over the potential risks. They have many questions, what are carbon markets and how do they work. What is a carbon offset and what types of projects produce carbon offsets. How do I judge the quality of these projects. Will the carbon markets be large enough to be liquid and meaningful to all of these Net Zero Goals, in this series, we'll talk with the architects and experienced practitioners of the carbon markets, seeking answers to all these questions and more from the people who know these markets best, you can join the conversation on Twitter at smarter_markets and now back to Grant.

Grant Williams (31m 14s):
Let's come back to web 3.0 and the tokens we were talking about earlier, because this is you know, it's sort of in this fascination for me in many, many ways, both the technology and the psychology behind it all, I just find the whole thing fascinating, but one thing is certain, you know, they are becoming an asset class, there's clear movement in that direction. So how should commodity investors think about these new digital assets as an asset class, what can they bring to that space from their commodity experience that might help them,

Josh Crumb (31m 47s):
That's been an interesting one, that's fascinating me for many years and I know, you and I have had a lot of conversations about, you know, Bitcoin and gold, you know, in particular, because if you look at something like Bitcoin that to me very much is a commodity right, there's a utility, you know, in the proof of work algorithm, and the unlimited scarcity and the way, the way these trades, you know, that, to me performs like a commodity, it trades like a commodity, I think the ones that are getting more interesting, again, are, you know, things like NFTs, or even like an infrastructure Blockchain, you know, like Ethereum or Solana, where, again, it's sort of a combination of this, this network effect, but also, you know, the utility that's provided in the Blockchain and you are creating you know, security and trust and so you know, that in itself, again, that's a positive externality, when you can increase trust in a system in a market in a network, you know, that's a positive externality, that should have some value, but it's very different value than traditional, you know, profit and loss on the equity line, or, you know, a return of, you know, return of capital or on a debt payment. So, I think there's definitely a need for these systems and these assets, because of what they can do to sort of organize crowds and organize the wisdom of the crowd. Now, ultimately, that's a good development in markets. But you know, I think the world is very much still trying to figure out how to value these things, and how to allocate, you know, capital to these assets?

Grant Williams (33m 15s):
It's interesting, you talk about crowd trading now, which brings us on to like, the highest trading we've seen in the retail space, what have you seen through your work in that space? Because it's ever I look, it's interesting to watch, but tough to figure out what, whether this is a moment in time where there is really some kind of change happening here.

Josh Crumb (33m 36):
I believe there is a change, and not that I you know, I'm playing a little bit, you know, armchair political economist or something. But I think I think what you're seeing, of course, is a lot of the political dynamics, you know, moving into the market, and at the end of the day, markets have always had political dynamics, you move into them, right. So, you know, you can't isolate one system from another.

So, you know, we clearly see a lot of sort of opting out of the current system, you know, a lack of trust in current institutions, and instead, you know, putting investments in these types of assets. I think that's part of it, but I also ultimately think that there is underlying technology that shouldn't be dismissed, because of, you know, thinking something like Dogecoin, which started as a joke became so popular and again, was one of the big stories of 2021. Now, if I look at commodities specifically, you know, one of the things that, you know, obviously, Abaxx has been working on but where I see this, this technology, being most useful, is in digital identity is in really creating a digital proof that someone is who they say they are, where it's encrypted, it's time stamped and sealed and it's secure, but everyone can access that timestamp and that immutability property becomes very interesting to sort of speed up digital identity. I know I always ask the question when the per on the other side of the screen or the text, when it's more probable, that they are who they say they are, you know, through digital proofs than, you know, analyzing someone's signature in a court of law right and the other mechanism we had for contract signatures and so forth. It's just going to speed up commerce and speed up trust even faster. You know, we've seen the rise of collaboration tools, I think, I think, you know, the stat is something like, you know, 45% growth in enterprise businesses of collaboration tools over the last two years and, you know, of course, you know, again, one of the, one of the companies that was really flying in this in this last surge was known as a company like DocuSign right, and how valuable that digital signature is, but at the end of the day, that's still, you know, that that signature that is still stored on a server, you know, held by held by DocuSign, but when we can start really having open standards, and really having, you know, a very, very high probability that, yes, it was Josh, that signed this digital document, that can speed up the old trust in a commodity supply chain or any business, you know, significantly and reduce a lot of cost. So again, that's another part that we're focusing on, is how we use the utility of these of these Blockchains in a very specific way to increase trust and lower cost.

Grant Williams (36m 26s):
What's the pace of movement like, and that just because we knew when I first spoke about what you were looking to do it, it was fascinating to me, and I've seen the progress you've made, but have you found it heavier going or has it been actually, perhaps smoother or faster than you thought it might be to try and move this adoption a lot.

Josh Crumb (36m 45):
I always perpetually think, oh, it's, it's one year out, or maybe two years out, you know, even though I know the old adage of, you know, you overestimate the five years and underestimate the 10 years, right and I think digital identities can be or self-sovereign identity specifically, is going to be another one of these, but I see the signs and, and, you know, very much like we started building the energy exchange focused on LNG and carbon markets, you know, well, before that became the front page news, you know, in fall of 2021, you know, I've been working on that project for three or four years expecting this this outcome and I would say, you know, very similarly in the self-sovereign identity space, you know, I started that probably four and a half, five years ago and I think, you know, I think this year, we I've started really see some signs, you know, you look at a number of projects through, you know, through Microsoft and now, you know, you know, the company, formerly a square block, and you look at, I think Avast just acquired a self-sovereign identity company. So I think this is moving. Now, that still probably means that it's probably a couple years out where I'm like, this is the year, but I guess, when you see the puzzle pieces falling into place, it does give a lot of hope that you know that we've been on the right track.

Grant Williams (38m 06ms):
For the benefit of people that aren't familiar with what you've been doing in the LNG market, in particular, because it's it, that's something that everybody, whether they are interested or not, is kind of being forced to understand a little bit better in recent weeks and months. So talk a little bit about the market, how it functions and what you guys have been doing, because it really is a tremendous story.

Josh Crumb (38m 26):38:26
Yeah, absolutely. So I mean, it's really about finding buyer and seller of last resort market. So when we think about, you know, commodity futures exchanges, you know, they're such an important tool in growing the supply and managing a low volatility, growth and supply to meet demand. Obviously, nobody likes volatility, right and so, you know, not the consumer, not the producer, you know,

the uncertainty is always the problem. So, if you can bring more and more information to the market to reduce that uncertainty, it allows people to plan the future a lot better and, you know, we had a particular thesis, you know, a few years ago, that, you know, there's gonna be a number of different changes in growth and changes in volatility of various commodities, because of, you know, this energy transition, right, we would see, you know, I guess, eventually, you know, not yet, but eventually, probably less need for something like oil trading, and a lot more need for LNG or carbon trading and so, you know, we've seen the development of WTI, over, you know, many decades now and really, you know, people forget us, it's really only been sort of a decade, decade and a half that Brent Crude has been, you know, a very prominent global contract, you know, that it sort of took some of, I guess, the headlines from WTI and so these commodity markets are always evolving and we think there's, you know, there's new tools that are needed, you know, for very specific commodities that we're lacking in the current market. So that's really what you know, that's really what that side of the business is all about is risk management. I mean, you know, what one of the one of the factors that that I think still people just really don't, in the conversations I've had really don't have their, their head around is just how big this capital investment is and it's not really in things that are very well defined right now, right. So you know, we're looking at something, I think my former colleagues at Goldman had had a number, you know, something like, you know, 56 trillion, you know, needed in capital investment to net zero, you know, which is something like three to 4 trillion a year, ramping up to something like, you know, 6 trillion a year, which is, you know, this is like, adding China's to the global economy, like, that's how much capital is, is going into this, you know, that then needs to go into this effort, and in many cases, in technologies that are not even yet proven at any sort of industrial scale.

Josh Crumb (40m 47s):
So, you know, to me, that's going to need massive amount of market information, you know, that's going to need a massive amount of risk management tools and so that's really what we're focused on is, you know, in the digital identities space, is really trying to increase trust and market information and then, of course, in the benchmark and the exchange space, you know, really looking at tools for, you know, for risk management, you know, so capital can be, you know, employed, you know, very quickly, and sorry, one more number, just because, you know, as I read, you know, sometimes I see these numbers, I think it's just so important to think about, you know, maybe coming back to our conversations on central banking, you know, actually many, many of these companies that were really, really rely on this CAPEX, they've actually been shrinking their CAPEX, you know, and research and development as a function of cash flow for decades, you know, we used to be in the sort of 60% to 65% of cash flow was, you know, going back into growth, sort of a secular growth phase of, you know, of many decades, now, we're probably on the lower half of 50%, going back into CAPEX and growth, yet, at the same time, just the energy transition CAPEX is going to required something like, you know, year over year growth of 3% of global GDP, invested right back into the energy transition. So if our net increase is 3% of GDP, and depending on your know, views of inflation, you know, real growth is probably only 3%, we basically have to invest our entire global growth, right back into energy transition. Again, I think those are sort of macro numbers, that people still just don't have their head around, and just how not how big this, you know, this this challenge is.

Grant Williams (42m 28s):
It's cursed by law of large numbers, right. When you're talking about $50 Plus trillion, it's very difficult for people to get their heads around, it sounds like one of those made up numbers that kids in playgrounds throw at you, you know, it's very difficult to, to visualize that and understand what it means on a sort of bottom up level.

Josh Crumb (42m 47s):
I think people are starting to understand, you know, the gravity of this. In fact, I, you know, just today landed after spending a week in, you know, the Kingdom of Saudi Arabia and you know, there was, there was a large conference put on called Future Mineral Summit and it was absolutely incredible to listen to, you know, some of the top officials in government and some of the most important companies in the world like Aramco talking about basically reinvesting out of oil and into minerals, and, you know, copper and electric electrification supply chains, you know, as part of the, you know, the 2030 initiatives, you know, Saudi Arabia is really going all in, in making these types of investments and thinking about these types of investments. If you look at some of the keynote speeches, and some of the, you know, these are the same conversations we've been having on Smarter Markets, and I can guarantee you, you know,

when I was in Washington DC, you know, last year a few times, they weren't having the same types of conversations. So, you know, I think the world is really starting to gear up to make these investments and, you know, as an investor, I think it's a, you know, it's a phenomenal opportunity to be involved in this, this is sort of like, you know, sitting in and, you know, sitting in Hong Kong, and then, you know at 1995, or, you know Silicon Valley and, you know, in the 80s or something, you know, I mean, you know, the path ahead here, I think it is just, you know, as investors and allocators of capital and engineers and builders, you know, this is an amazing decade and decade or two to come.

Grant Williams (44m 19s):
You guys are trying to revolutionize or these energy markets with the way they're priced. While I think energy producers are incredibly cutting edge in terms of the constant need to improve their technology. In the extraction process, the pricing of energy markets has always seemed to me and you have a much better sense of this, which is why when asked the question, it was seemed to me pretty resistant to change and it seems there's a lot of ways in which the pricing of natural resources could be so much better. How have you found trying to take that kind of change to those markets, has it been embraced, or have you had pushback from encumbrance and people just have a way of doing things that you just don't want to change the way it's done.

Josh Crumb (45m 04s):
There's always an institutional pushback and an inertia. So short answer is, it's difficult and I guess I've been kind of in that sort of trailblazing seat for a long time and I guess I'm certainly used to taking those punches and things taking much longer than I would like to, but certainly the dialogue is there. You know, I think some of the some of the things that we were saying about pricing externalities, you know, having differential pricing for carbon or ESG related metrics, I think that was sort of a new idea. It was sort of a year, a year and a half ago, that, you know, our podcast, frankly, I think, really helped, you know, the Zeitgeist and, you know, really expanded that conversation, you know, particularly, you know, Robert Friedland's episode and in Jeff Currie. So, you know, I have heard that more and more, you know, even the conversations that we're having in Saudi last week, you know, during this past summit, was very similar in that, you know, we're just talking about, you know, one of the big problems with a commodity, and I talked about a lot of this on the last, you know, on the last episode is, you know, fundamentally it's a commodity, right. It's supposed to be interchangeable and you price the lowest marginal cost, right, But what has that done geopolitically and in our supply chains over the last, you know, 2030 years, even if a company is doing better and better and sort of cleaning up their local environment, reinvesting in their local communities, they're still getting priced, the marginal, you know, sort of lowest cost incremental supply, you know, coming out of, you know, maybe out of a country that didn't have the same environmental standards. So in many ways, you know, the resource rent is disappearing for a company that's doing better and there's no incentive to do better, in many ways, unless it's, you know, purely out of charity or regulatory, right. Like, that has been a big problem. And again, if we need, you know, particularly the, you know, the heavy, you know, physical industries to be, you know, reinvesting, you know, literally trillions into cleaning up, you know, they need to have the kind of margins of a Silicon Valley company. So how does that happen. How do we start pricing, the margin, so these companies can have the capital to perform and that's been a big part of what we're trying to do with Abaxx and in our markets and I think that's a lot of, you know, a lot that we're trying to do on this podcast, as well as to really get that conversation started.

Grant Williams (47m 26s):
As we kind of move into 2020 paint me a picture if you can for the people listening to this of the kind of the major changes that you think are our most likely that we need to watch out for the big shifts that you see in whether it be commodity pricing energy markets, in general that people need to be paying attention to, for the rest of this year?

Josh Crumb (47m 46s):
Yeah, well, I actually think this year maybe was probably a little bit less sort of new information than then than last year, right. I think, I think there was a lot of people warning about some of the problems in the energy supply chain, which again, became sort of front page news, you know, by November, December, in the inflationary talk, and again, like the you know, ideas of differential pricing, knowing some of the contract work that the LME did, and, you know, some of the things that were working on, I think these are, you know,

maybe it's not mainstream from a pure capital markets, but you know, specifically people in commodity industries, I think, are really getting, you know, getting used to these, I think you know, the big question, or you know, probably the big new information that's going to come this year, is how do we use some of these technologies, you know, like Blockchain, like these crowd swarms, you know, how do we use those to capitalize the energy transition, you know, very much like, like, you know, like Tesla, you know, as an example, like, how do we how do we create the Tesla of copper mining, right and is there a token involved in that, you know, my base case is probably not, but I'm just, you know, again, the point of Smarter Markets is not that I have answers, but we want to ask these questions and so that may be is something that we'll start to see, hopefully, is some new technological, in sort of market innovations, to really, you know, really accelerate, you know, capital moving to the space.

Grant Williams (49m 13s)
There's one last question before we wrap up, and that is around the people in the business, it seems to me with my exposure to the resource base, that there seems to be like a new generation coming through the ranks for the first time, really, in quite some number of years and there's a lot of very young, very smart guys running resource business now and it feels to me like we are on the cusp of seeing some real change in that market. Are you seeing a new wave like I am of these dynamic CEOs taking real old world businesses and modernizing them or, again, is this another false dawn and the resource sector is going to it's going to still remain with people of my generation as opposed to the next generation?

Josh Crumb (49m 56s):
Yeah, I'd say a little bit. I mean, certainly the cultures are changing, but you know, one thing very specifically over the last month or two is just incredible amount of turnover and I guess hard to find people in any roles, right? So I'd say that's probably the, you know, the bigger issue is we're really trying to rethink work and what companies we want to work with. So I'd actually say that's probably the bigger challenge. But yes, that that probably is some level of volatility, which will come out the other side in something, you know, something different, right? We're kind of going through one of those turbulent phase transitions and certainly more capital and more profits coming to the space will attract more people as well, you know, short answer is yes, I think the thinking is a little bit different. I also think one other thing that I guess younger people probably have that, I'd say in the sort of the first part of the commodity cycle in the early 2000s, I would actually say most people didn't even believe it, right. The amount of gold companies, they didn't believe in their own product, but all of a sudden, are phenomenally rich, you know, and it didn't really know where it came from, you know, kind of living in those sort of Canadian capital markets and so forth. I think that, you know, a lot of people really caught off guard, I think this one's a little bit different and it's attracting people that are really working on different challenges. We need to do a podcast series on Saudi Arabia specifically, but probably the one of the most shocking things I saw. So, you know, I'm a Colorado School of Mines graduate. You know, there's a lot of Saudi engineers and geologists from the School of Mines and you know, I was at the Aramco booth, and they were going through a digital core shack, you know, and there's a young Saudi woman that, you know, another Colorado School of Mines grad, and we were on, she was walking me through the, you know, the digital corps shock and the technology, you know, the artificial intelligence and the way, it was straight out of Star Trek, you know, moving things around on a big table, you know, and you can pull up screens and look at drill logs and moving squares around with your hands and it's sort of rendering and processing in real time. The amount of technology that's also going into these sectors, I think, you know, gives me hope and of course, you know, you know, young engineers or geologists, you know, like that young woman at Aramco gives me a lot of hope. So, you know, sometimes you can look at these things, and these are big, scary problems, but you always, you know, also want to recognize the things that certainly didn't exist five years ago.

Grant Williams (52m 19s)
Thanks for joining me today, Josh to discuss your approach to making the Smarter Markets vision a reality. Next week, I'll be joined by Eric Townsend of Macro Voices who will share his thoughts on what's going right and what's going wrong, and how Smarter Markets can be part of the solution.

Announcer (52m 40s):
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