Data's role in the energy transition

ESG voices podcast

Musical intro

Host:

Hello and welcome to another episode of ESG voices! This podcast series addresses the opportunities and challenges within ESG, through interviews with ESG specialists from KPMG and beyond. Throughout this series, we will discuss a broad range of environmental, social and governance issues, aiming to support governments, businesses, and communities in creating a prosperous future.

The energy transition stands as the defining challenge of our era. Every sector faces mounting pressure to power human progress in a way that is reliable and affordable but also, critically, more sustainable and equitable.

For today's episode, I am joined by Pravin Chandran, Managing Director in the KPMG US Data and Technology practice who will be facilitating a Q&A discussion with Dan Harple, Founder & CEO of Context Labs on the energy transition, and how Context Labs is helping their customers navigate the increasingly complex landscape and deliver on their goals.

Pravin, over to you.

Pravin Chandran:

Dan, thanks for joining. Can you give us a brief introduction to Context Labs, how you differentiate yourself in the market and what you're doing to enable your customers to meet their energy transition goals?

Dan Harple:

Sure. Pravin, thanks for having me. The first thing I would say is what Context Labs does. It produces something we call asset grade data or AGD, and what that really does is enable companies to accurately what we call measure, monitor and mitigate their climate performance. And there's a whole range of technologies that we use to do that. And what we're providing essentially is a climate tech platform.

It's an enterprise data fabric that allows all data to come into it and be what we would call AGD and be contextualized because we view that data taken out of context is an asset grade and you need to get that granularity to understand exactly what's happening or approximate what's happening from an empirical measurement point of view.

Pravin Chandran:

Okay. And so that and can you give us an example, maybe a real world example of how you've helped a client without necessarily getting into client specific details to make this very real for some of our listeners?

Dan Harple:

You bet. Without naming names, you know, we are making penetration into the energy transition sector and in a key element of climate performance is the representation of, I would say, your carbon pathway. Okay. And we think of data as a supply chain of data. So, if you're delivering energy, for example, to a public utility, there's a concept basically called from wellhead to burner tip.

So it goes through the whole cycle upstream, midstream delivery and ultimately to a consumer. So that carbon intensity pathway is something that's highly valuable and, you know, it's valuable in many ways. First of all, by actually articulating that now what we've done is we've created what we consider and our customers consider to be a national security asset. So energy security matters, right, so it does that. At the same time, there is increasing regulatory pressure on having the cleanest energy possible. And the only way you can actually ascertain that is with asset grade data. And, you know, just getting an estimate from an EPA estimate from an upstream provider doesn't give you that. So think about a supply chain of data and we've blended that into context to actually be able to construct a carbon pathway.

For example, regulatory pressure for carbon reduction is mounting, particularly on public utilities. Our platform, using AI, can derive the carbon intensity of a given energy pathway, and this allows customers to dial-in the carbon intensity of their energy production to meet their specific requirements.

Pravin Chandran:

Wow. That is really interesting. One of the things you mentioned, which is really interesting is LNG (Liquefied Natural Gas) and Europe. And, you know, we attend and speak at conferences, as do you, and we work with a lot of leading executives and the feedback and the, the trends that they've shared are that while things that have happened in the world are unfortunate, it creates a true need for US produced LNG. Do you see Context Labs playing a similar

role to help the US LNG exporters prove their environmental performance and continue to serve different parts of the global energy markets?

Dan Harple:

I think we're centric to that. There is no other digital platform that can do this. The current method would essentially be an attestation based around an estimate, and estimates are not good enough for OGMP 2.0. So, we are compliant with those GMP 2.0 level five, which also includes satellite data. So, one of the things that AGD means is it means all sources of data from the bottoms up all the way to the top down.

And if you think about that, what is that? It's skater data which may be delivered every 5 milliseconds. Right? So, we're recording all that data. It's sensor data, it's drone data, it's satellite data. And that's if you think about if we if we did a stream of contextualization on each one of those data streams and then we blend them together, that gives the deepest source of trust in the representation of the carbon intensity of that data.

That's what's required by the EU. And currently there's no other platform that does that.

Pravin Chandran:

Okay. And actually, just to clarify, when you refer to OGMP you're talking about the Oil and Gas Methane Partnership, correct? Supported by many of the leading oil and gas majors?

Dan Harple:

True its currently the state of the art, I would say for representation of climate impact for energy. We've adopted that. I mean, our technology, it can be used to represent, you know, various standards, so to speak. You know, we have a distinct view of standards in that what really drives a standard and this goes back to work I've done in prior companies as standards may get defined, but unless they're adopted, they don't matter.

And often what gets adopted is the best thing. So, in some ways, Darwinism prevails in technology.

Pravin Chandran:

There is quite a bit of buzz around the growing number of measurements and sensors, satellite imagery and the ability and the resulting capability to use AI to extract insights from that data. How much of that is real, things that you see and are doing today?

How much of it is maybe a few years out?

Dan Harple:

There's a range of that, right? I mean, I can speak to what we are doing. We have seen it as we've gained customer traction and announced features. Other sort of edge competitors then suddenly announced the same thing. I mean, that's a natural market dynamic that happens. I will say that I believe that, and this is, you know, entirely self-serving.

But I will say any analytics you build, if they're not based on asset grade data, they're not worth much. So, asset grade data includes chain of custody, it includes provenance, and it includes traceability and so if you've built an analytic that's not on that, I'd say you've built it on sort of a foundation made of sand, okay.

So, one of our unique differentiators is that and when I talked about the process of contextualization of a AGD, I talked about I call it the digital shrink wrap. So in that shrink wrap, every time, every transformation of data gets an encrypted signature. And what we do is we drop all those signatures to a blockchain ledger.

What this means is we can, we can roll back and unpack things, okay? For example, when we do the certificates that our customers use for methane representation, you can unpack that with something we call the certificate Explorer and roll it back and see all the elements that built it. Now, I would suggest that any, any analog that can't do that is valueless.

And what we're trying to do is build trust into the ecosystem. And if you don't have trust, I think you don't have anything right? Now next thing I'll say about AI is there's a huge hype fest around AI, and most of the AI is really around AGI (Artificial General Intelligence), you know, about, and also about large language models and things like that.

Okay. The AI we do is different. It's highly analytical, it's highly complex in terms of its mathematical and graph certainty. So, we do a different kind of AI. I think the AI that is doing AGI and sort of large language model things is highly valuable, but it doesn't give you a quantitative analytic. And our company is focused on empiricism and analytics that are quantifiable.

So, our AI is more derived from complex graph analytics. But, you know, to kind of get really concrete. What it does is it gives, you know, I think of one customer who represents about one third of the U.S. energy supply in America. The insights, the contextual insights they're getting are helping them actually deal with predictive analytics that tell them where to place capital resources for maintenance, for example, you know, predicting where things could go wrong sooner and getting to them before they do go wrong.

And in terms of just the fundamental thing being methane and methane leaks. That's really important. So if you can actually get to things before you know, there's a blowout or something like that, well, that's, that's really important. So I think that's a really fundamental thing. Other things we're able to do is using AI to generate pathways and you can essentially dial in. I talked about the dial. I didn't call it the dial, but we can dial in a carbon pathway. What this does for trading, energy trading is amazing because, you know, a public utility that's got a certain regulatory requirement for a carbon intensity can dial it in now and you could essentially automate trading to deliver the cleanest energy to that particular customer. So that's some AI as well.

Pravin Chandran:

Thank you. That is really helpful. Now, we often in our day to day focus, when we think about decarbonization, we think about renewables and battery storage and some of the methane reduction efforts that some of our joint clients are undertaking. But there's growing amount of consensus and realization that carbon removal will also be critical, carbon removal from the atmosphere, carbon capture to help us achieve our net zero goals.

And over the last year and year and a half, as you know, the U.S. federal government has changed and provided and now provides a significant amount of incentives to help with carbon removal technology. Given what you've described about your capabilities about getting and providing data across the lifecycle, how applicable do you think the capabilities you have in gas and energy are to carbon capture?

Dan Harple:

In some sense, in a natural gas is the natural stepping stone for CCUS (Carbon Capture, Utilization and Storage) and hydrogen, and that infrastructure in many ways will be shared infrastructure or redeployed infrastructure. So providing that, that level of context and AGD is really important for proving performance. On the other hand, as we are part of a large award on this, by the way, with one of our customers and our platform will be in some sense the, you know, I think about this sometimes you think about the growth of technology, you think of Hewlett Packard that was developed, you know, in a garage in Palo Alto, right.

So, one of the first devices that they made was as a meter, a voltage meter. Right. It's designed to measure things okay. So, in this new era, 21st century, you need to measure, monitor and mitigate and much more complex things. So, our platform is in place to be deployed for those things. Further, as and this ties into the IRA as well as large branches of capital, you know, are deployed there, needs the ability to actually measure accountability and deployment of that.

This technology, in one sense, when I talk about the chain of custody and we talk about track and trace, a lot of these are supply chain concepts, right? But we've taken these supply chain concept and applied those to data. And the idea that you can track and trace data, it's irreversibly and immutably tied to a ledger, so you can always go back.

It's kind of like a climate auditor's dream because if a company is deployed this, essentially all you need to do is go and interrogate the ledger to see everything that happened. This will be increasingly important as I think hundreds of billions have been allocated for this in the coming years. So being able to reliably represent what you did is critically important.

Pravin Chandran:

Right. And so, if I understand it correctly, you view your current work with energy producers and methane as a stepping stone and some of the capabilities and infrastructure that is being developed now can be utilized in the future. And when you talk about the data supply chain, maybe before or now, you're tracking a physical commodity, whereas in the future you could be tracking carbon and providing insights on carbon and helping investors or the federal government put into context how much carbon is being removed for the capital that has been provided?

Dan Harple:

100 percent

Pravin Chandran:

Do I have that correct?

Dan Harple:

100 percent. I mean, our platform is called decarbonization as a service, right? So we're in effect already tracking carbon. We're tracking a carbon pathway for energy delivery from wellhead to burner chip or wellhead to water. So, we're already doing that. And sort of the inverse of that is, you know, if you're, you're tracking what you're decarbonizing, you're also tracking carbon capture, etc.

And what we do think is, for example, carbon markets to evolve. Look what's happened to the voluntary carbon market in the last year. So, it's basically cratered and we would say it's cratered because of the lack of quality in the, in the assets, so to speak. And I think there's maybe it wasn't intentional, but I think there was massive fraud perpetrated in carbon credits and I think this technology is once again, it's a transparent lens. So, you can see through any greenwashing, all the proliferation of methodologies that are qualitative and non-qualitative, I think will be written off as an example. And I think the next gen of the carbon market will be based on asset grade data, that's referenceable, that's attributable, that's auditable, that's empirical know it won't be, you know, some arm waving. You know, we're pretty bullish on carbon markets being built on AGD. And also, we think that the crashing of the voluntary market, it's just the start of the game, right? It's just there will be lots of losses there. But compared to what's going to happen in the future, we think it's going to be a drop in the bucket.

Pravin Chandran:

So that is a really interesting point. And let's go a little bit deeper on that. So on the one hand, we all see the releases and the news articles coming out on carbon markets and each one is more dire and really very unfortunate when you see some of the things that are happening. On the other hand, though, when we talk to our clients, KPMG clients, they all still recognize the need for different types of nature-based solutions and offsets for them to meet their net zero goals.

And so, they're unwavering in their commitment on the buy side. And you've got you've got project developers doing some interesting things, so the market's not going away. In fact, it may even get bigger. Probably it will get bigger. Can you elaborate on what capabilities and offerings you have to help with voluntary carbon markets and where you see Context Labs fitting in?

Dan Harple:

Sure. Fully agree that the market's trending towards getting bigger. The fact that there has been this massive speed bump on the existing markets, people sort of boil that down and say it's because those markets were not based on asset grade data. You know, we'll just boil it down. Veera for example, Veera really took it on the chin, right? Proliferation of methodologies. I mean, I'm not going to say none of them were underpinned by quantitative data, but in general they were too general. What we're doing to address the market, is one of the ways I can simplify our platform is there's a production facility that's our Immutably platform with our Decarbonization as a Service service layer. Consider that sort of like the factory that produces high quality carbon credits, okay?

Those credits then go into a bucket. If you think of like system dynamics, you know, you've got stocks and flows. Okay, so our flow rate comes out of Daas (Decarbonization as a Service) produces high quality carbon credits and the stock resides in Clearpath. Clearpath is also designed as a mechanism to help project developers build in AGD into their methodologies. Okay, so it's a virtuous loop.

I make it akin to Clearpath. If you roll back years ago when everybody the bane of existence on the internet was the banner ad, remember getting all these terrible banner ads, you're like, 'Why am I getting all this garbage?' That's because DoubleClick essentially created a stock without. They didn't care what went in the stock. Okay? There was no mechanism to have a flow rate of good quality stuff.

And if you think about what DoubleClick did with Google acquiring them, that really drove Google to ascendancy, right? Because of that, I like to think of Clearpath as sort of like a next gen high quality DoubleClick for carbon credits. So we'll be able to serve up carbon credits to market makers, but they'll be quality. In other words, no crummy banner ads like from an analogy point of view.

So those are the two sides of our platform producing high quality carbon credits made from AGD and then providing an inventory for market makers to go in and actually transact on that.

Pravin Chandran:

That is a great analogy that makes, I think, very real where we are with carbon markets relative to what we've all witnessed on the internet over the last 15, 20 years. And so if I understand what you said correctly, you're going to give developers the capability to quantify their impact, the impact of their hard and good work to have impact on the environment, and you're going to give them the ability to collect data to prove what they've done and subsequently allow entities to transact upon the offsets that are created.

And so, you have a full pipeline from what happens in a given forest or our land to the point where capital enters the system.

Dan Harple:

Absolutely. And what we will not do in our companies, we will not create a conflict in our company. Our company will never trade on these assets. We will create the inventory and in ClearPath that market makers can peer into so that they can make markets on these carbon assets. Okay. And that's sort of the DoubleClick-isation of carbon, I'd say.

And the big differentiator here is remember for DoubleClick, it was bunches of crummy banner ads. So the banner ads here are carbon credits and we will not have any crummy ones in there. What will be in Clearpath will be asset grade, but we would say our investment grade instruments based on AGD, and that will help bolster the carbon markets because it'll build trust into the carbon markets.

Pravin Chandran:

Wonderful. My last question, as you probably know, KPMG and Microsoft have a very strong, long-lasting partnership. And we even recently announced a multi-year investment with them to modernize our own services that we deliver to our clients and our joint clients where we're increasingly automating, utilizing AI to provide a higher quality experience, greater value to our customers. Now, I have also seen that Context Labs recently made a very exciting announcement with Microsoft.

Can you elaborate on what you're doing with Microsoft, how it enhances your mission, their's and perhaps even how you see this all coming together with maybe all three of us? So that's Microsoft, Context Labs and KPMG.

Dan Harple:

First of all, it takes a village, right? There's no company that's going to solve this. And we are a platform and an application layer that's designed to interface with others. And if I go back to our super node strategy, it doesn't mean we will interface with everybody, right? We will prioritize who we interface with and as an example, you know, we have a relationship with KPMG.

KPMG is a super node. What KPMG does is a wide range of services, right? You know, it's not just auditing, assurance and verification, there's industry expertise, thought leaders in decarbonization, etc. So that's our relationship with KPMG. What we've announced with Microsoft for us is quite strategic. And one of the ways to think about this is when one's asked, is climate or the carbon markets, how big is the market?

Our response to that is the total addressable market or the TAM. And we see this is the largest in history. And you know why? that's because every single country needs a decarbonization strategy and a platform to execute. Every single company needs that as well. And Microsoft is well aware of this. So, this gives us a broad reach into global customers, countries and companies, and operationally and also technically, it gives us a range of things.

One of these things is now we are able to position as a decarbonization solution that is with Microsoft, who is the world's trusted cloud provider. And they've made some of the most ambitious sustainability commitments and are making great strides in achieving those. As Microsoft works towards achieving net zero, our alliance with them will bring our decarbonization solution to customers. It'll do that with significantly reduce carbon footprints and positively impact their scope three emissions.

So, to deploy our technology will not accrue to any carbon footprint at all. And I think there are two other major things with Microsoft that we're getting, you know, besides the reach of Microsoft, right? One is with the digital twinning of carbon pathways that has been identified as for energy security purposes, as a strategic national security asset. We already provide deep encryption for that. But the cybersecurity capabilities built into Azure are definitely world class. So, we strength harden our energy security for our customers by working with Microsoft. Further, with the Microsoft AI work we think we will be able to even more rapidly out innovate and accelerate others. And you know that in terms of working together will tie in with working on countries and customers with KPMG as well.

So for us, it's like a well-rounded thing. And to actually, you know, the only company I did was it was called Netscape, and Microsoft sort of crushed us, right? So my career has come full circle here into the company that crushed me in 1997 is now my strongest partner. So, like live and learn, like the world, the world keeps turning.

Pravin Chandran:

And are there any parting thoughts you'd like to leave with us?

Dan Harple:

Maybe the thing is the the art of the possible, I believe I'm a firm believer that technology can change the planet and that people's behavior, I mean, the technology we're using here for this conference, my company first developed this and commercialized it with Netscape, you can build things that will impact billions of people every day. And the ability in earlier companies that I did to unite people digitally, that's pretty cool, but think about how much cooler this is and how much more important this is, because there is kind of a systemic existential drive for what we are doing. No matter where you sit politically or anything on climate, the reality is we should always be as gentle and loving to our planet as possible, and our platform allows countries and companies to do that.

So, like I'm crazily bullish on the ability for this to happen, you know, and it has to happen. We've got a strategy with super nodes with great technology. And another thing I'm seeing too, is not to belabor it, but like the next generation of inventors and innovators are younger and we're seeing so many people come over the transom.

I'd say, for example, on our company in the last four months, we've seen about six or 7000 people come over the transom looking for jobs. And because they want to work for a mission driven, purpose-built company. And that's as like a father and a grandfather that means so much that you see that young people actually have a purpose, they're not just out to get jobs. I think people come to work to do what you guys do and what we do. They aren't the people who take jobs at social media companies, they will not do that. They want something that's going to be more impactful. So, hey, that's all positive stuff for humanity, I'd say.

Pravin Chandran:

Well, thank you very much for your time, Dan. We really appreciate it. Have a wonderful day.

Dan Harple:

Thank you for Pravin.

Host:

Pravin and Dan, thank you for joining us on the podcast today. You've given our listeners a lot to think about. Join us again next time for more insights from ESG leaders and innovators. You can also find our latest insights covering a range of ESG topics by visiting kpmg.com/ESG.

Thanks for listening.

Musical exit

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