

→ Nota Bene Transcript 133

Thank you for downloading this transcript to Nota Bene Podcast Episode 133: What's Driving the Shift Toward Renewable Energy? with Paul Kaufman and Ben Huffman.

Listen to the original podcast released July 7, 2021 here: www.notabenepodcast.global

Clean energy technology has been on the rise. As companies strive to become more sustainable and the cost of manufacturing renewable energy continues to decline, we're taking a look at the driving factors behind the shift toward renewable energy and exploring how multinationals can meaningfully participate in this market. Joining us for this conversation are attorneys Paul Kaufman and Ben Huffman.

Guests:

Paul Kaufman is a partner of the Real Estate and Land Use and Environment Practice Groups in Sheppard Mullin's San Diego (Del Mar) office. Paul has been an energy lawyer since 1984. Over a career of almost 30 years, he has negotiated all manner of project contracts, including power purchase agreements, hedges, interconnection and transmission agreements and equipment procurement and construction contracts. He represents parties in M&A transactions involving development and operating wind and solar generating projects. He works with renewable energy technologies, including on large wind, solar and biomass projects, and on conventional power plants using fossil fuels, as well as gas storage projects.

Ben Huffman is a partner in the Energy, Infrastructure and Project Finance Team and the Real Estate, Land Use and Environmental Practice Group in Sheppard Mullin's Chicago office. Ben helps developers, utilities, infrastructure funds, banks and institutional investors finance, buy and sell infrastructure projects, and advises the companies that develop and own those projects, across the United States. While his experience spans asset classes and transaction types, he focuses on tax credit monetization transactions and renewable energy generation facilities.

Transcript:

Michael P.A. Cohen:

Welcome to Sheppard Mullin's Nota Bene, a weekly podcast for the C-suite, where we tackle the current national and international legal headlines affecting multinationals doing business without borders. I'm your host, Michael P.A. Cohen. Let's get started. Welcome to Episode 133 of the Nota Bene Podcast and thank you so much to all of our listeners in more than 100 nations around the world. We so appreciate your ongoing participation and our conversations and your feedback. Please do keep it coming. It continues to influence our program, including today where we are going to turn to the energy sector for the second time in the show and hopefully mark a recurrence in our focus on energy at least on a quarterly basis going forward.

Michael P.A. Cohen:

Before we get started today, I did want to remind all of our listeners about a new podcast, French Insider, launched by Sheppard Mullin in June. French Insider is a special focus podcast for French companies doing business in the United States. The podcast features interviews with business executives on these topics from French companies and their US subsidiaries as well as experts who manage the facilitate of doing business in the United States from Europe. As I said this podcast launched in June, with three episodes including interviews with Julie Myers Wood, the CEO of Guidepost Solutions, and Paula Clozel, the plant manager for Creapharm CS USA. The podcast will air monthly, so don't miss it. I expect a monthly release sometime in July beyond the first three episodes released.

Michael P.A. Cohen:

All right, turning back to our podcast today. As stated, we're going to turn our focus to renewable energy today in particular, and going forward, we will be working and focusing on the energy sector generally into our show calendars each quarter. I'm thrilled today to welcome to the show for the first time, guests, Paul Kaufman from San Diego, California and Ben Huffman joining us from Chicago. Paul received his undergraduate degree from Cornell University. He received his juris doctorate degree from the Lewis & Clark Law School in Portland, Oregon. Paul decided to span the opposite edges of North American continent in his educational career, traveling at least 3,000 miles from one to the other.

Michael P.A. Cohen:

He has had a 30-year career in the energy sector as an energy lawyer, if not more. He has formerly served top executive positions with energy companies including serving as the executive vice president of transactions and general counsel with EDF Renewable Energy, perhaps in its former form and name and as general counsel at Iberdrola. He returned to private practice in 2012 and currently focuses on renewable energy projects including large wind, solar and biomass projects as well as conventional fossil fuel infrastructure and work. His work spans North America, the Caribbean and Central America at the very least and perhaps broader than just those regions. He is a frequent writer and speaker in the energy arena.

Michael P.A. Cohen:

Also joining us today is Ben Huffman. Ben received his undergraduate degree from DePauw University in Indiana where he graduated cum laude and I understand has a chip on our shoulder because he was a half letter grade away from magna cum laude. So he made up for that in law school when he graduated from Notre Dame School of Law, summa cum laude, leaving no doubt that he was the number one student in his academic class. He advises developers utilities, infrastructure funds, banks and institutional investors in all dimensions of energy infrastructure projects with specialized experience in tax credit monetization transactions and renewable generation facilities. He, likewise, is a frequent writer, blogger and speaker in the energy arena.

Michael P.A. Cohen:

We will link the bios for both Paul and Ben in the show notes as we do each week, so our listeners are only a click away to reading more about them, seeing their own writings and engagements or contacting them in any way that may be desired. And Paul and Ben have signed up for the implicit agreement coming on the show to field calls from our audience should those arise. Paul, Ben, welcome to the Nota Bene podcast. It's so great to have you here today.

Paul Kaufman:

Thank you.

Ben Hoffman:

Pleasure to be here, Michael.

Michael P.A. Cohen:

It's really great to have you and again I'm very grateful for your time. I want to turn to our topic, but before we do, since it is your first time on the show and I hope the first of many, I thought you each might take a few minutes just to describe your current paths to your position on the planet. Paul, how did you get from the ivy leagues to Portland, Oregon for law school and then energy? Let's start with that, if you don't mind.

Paul Kaufman:

Sure, absolutely. So I started off at Cornell in Upstate New York. Well actually, I started off at State University of Binghamton in upstate New York and then moved to Cornell. And as part of their transition, I spent a year in DC working on environmental matters. And that led me to Lewis & Clark Law School, which I had a specialization in environmental. And in the first year of my law school career, I got a position with the Bonneville Power Administration doing environmental impact statement work with the general counsel's office there. But in peering down the hall of the general counsel's office, there was a whole group of people working on electric rate and policy matters. It had been a recent passage of a what was called a Regional Act and there was implementation activities going on constantly.

Paul Kaufman:

And they looked like they were having a lot of fun and looked like they were really enjoying themselves and working hard, and so over the next couple of years of law school, I started to develop a focus on energy and electric power and everything just happened from that. And now I'm incredibly boring at parties and practice environmental law and through renewable resource development.

Michael P.A. Cohen:

I can't imagine that you're boring at cocktail parties. Just saying those words is interesting to me, but perhaps I'm likewise not a good litmus test for cocktail parties myself. You're the perfect guest for the show today and I'm very grateful to have you with us, so thanks so much for describing that path. Ben, you've got to be from Indiana, you decided to avail yourselves of the highest level education that Indiana has to offer and that is about as good as it gets anywhere. How did you go into energy?

Ben Hoffman:

Well, first, I should say that I understand that Paul makes a very mean margarita, so I think his cocktail parties are a lot of fun despite what he says. My interest in this area started in high school, although it wasn't specifically in renewables, it wasn't in energy, but I had a real interest in applied science. And so I went to exhibit projects at the International Science and Engineering Fair in high school for three years and then also was a regional finalist for the then Siemens Westinghouse Math and Science Competition. And my projects were

environmental science projects that were really applied environmental science, and at the same time, I did mock trial. So I'm an amalgamation of mock trial and I've been to science fair from high school.

Ben Hoffman:

And when I got through law school and had opportunities to work in various areas, I kept coming back to this really cool finance project development area with wind farms and solar farms. And that was 10 years ago when that was not really a thing that people were doing a lot. It was starting. It was starting to become a thing, but it wasn't as popular and a trend. It certainly wasn't the way that it is now, but the area really interested in me is from a substance standpoint. And it's fun to hike out into a field and see a wind turbine that you helped create in a sense. So that's the tangible part of it is fun as well.

Michael P.A. Cohen:

That's fantastic. I've never hiked out into a field to see a wind turbine, but I've seen many fields of them. And I always feel like I'm in a science fiction movie when I do and it's a good feeling, not a bad feeling, just a fascinating field to be in, which leads me to a little staging for our show today. We seem to be in an accelerating term, and the historic development of the human species use of energy. I will say that it seems like we are leaving fossil fuel era and turning toward a renewable era, but we're not turning to it for purely altruistic reasons. There are economic drivers accelerating this change and technology drivers accelerating this change. And this is no longer about politics, it is about efficiency. And that seems to be increasing.

Michael P.A. Cohen:

Amazon and other business tech companies are helping to accelerate this change by a trend that I am reading about in corporate procurement, so to speak. Amazon, for example, recently announced it was going to source energy from 14 new solar and wind plants around the world with a goal to sourcing from 85 utility scale wind and solar projects. In short order, at least according to some of the background materials that Ben shoveled my way to get up to speed here. Together, Amazon, Google, Facebook and Microsoft account for four of the top six buyers of publicly disclosed renewable energy purchase agreements and account for nearly one-third of the total from corporations globally, showing that there is literally a big tech focus and trend driving a lot of corporate procurement in this area. And direct corporate procurement itself is an interesting trend to mark for its own sake.

Michael P.A. Cohen:

Conventional energy companies are also turning now toward renewables. French oil giant, Total, is a perfect example coming in just behind big tech as the fifth largest corporate procurer of renewables. And we did a show about a year ago, I think, but I have to go back and look at the episode with Mark Sundback where he really pre-staged and predicted that this trend was going to accelerate as we have seen in our present moment. Some executives have described the current trend toward renewable energy as a stampede, literally a stampede, at least according to a June 23rd report in the Wall Street Journal which we'll link in the show notes to this episode. And by the way, every fact and figure I just described comes from that same Wall Street Journal article.

Michael P.A. Cohen:

Paul Kaufman, who is with us today, has written an article about corporate offtake agreements in the United States, which we will also link in the show notes. And in short, this is just all a way of saying, I think in big picture point, renewable energy is no longer a novelty. It is the future and the present. And what I thought I might do to launch our conversation today, Paul and Ben, is just ask you, what is this new frontier look like? What are some of the mechanics behind these corporate power purchase agreements which are company-direct deals? How are they occurring? What are some of the high-level points in our audience, which is a multinational business audience, needs to know in this moment of historic turn to renewable energy sources?

Michael P.A. Cohen:

In other words, tell us anything we may need to know and tell us what you think is important in this field, if any of that makes any sense. Let me throw it up into you guys.

Ben Hoffman:

I think in the end though, all that we will talk about comes back to the point of a multinational corporation organization can participate in this market. That's really I think the punchline, multinationals can participate in this market in a way that they may not necessarily have thought that they could participate and certainly in the past have not participated. Paul knows more than anyone else about how that happens and who's involved in all the various options. And so I will absolutely let him take it away.

Paul Kaufman:

That's a great sort of segue, if you will, into what I was going to talk about just briefly to give, to set the context for the discussion. Without going back too far into the past, and in fact, this is a circumstance that we see in many places, it used to be that you got your electricity from a vertically integrated electric utility and it was either owned by the local government, it was either a coop or it might have been an investor-owned utility. But you had no choice because the service territory that those utilities had was granted to them. It was a monopoly service territory. Sometimes by statute, you had no choice but to get your electricity from that entity.

Paul Kaufman:

Statute gets passed in the '70s, maybe early '80s, I think it was '70s, called PURPA, which allowed you to develop what was called cogeneration and small power production which are facilities that you can own that produce electric power. With respect to cogeneration, it also produced a form of useful thermal energy. And in that circumstance, you could take the thermal energy. In some circumstances, you could take the energy, but in most cases, you were selling the electric energy to that utility. Further developments in a regulatory perspective produce what was called the exempt wholesale generators which again could be privately-owned and nonutility-owned generation, again selling at the wholesale level to the utility which then would sell to its retail customers within the monopoly service territory.

Paul Kaufman:

There were other developments that occurred at the wholesale level, but the most significant development at the retail level was the advent of what was called customer choice or open access. And that allowed some customers in some states, currently about 30 I think is the number, to actually buy electricity directly from somebody other than the utility. The utility would control the wires and the point of connection with your factory or with your store or with whatever it was that you needed electricity for, but you could actually buy the

electrons from the third party. That's still possible in some states. So that's one model available in some states for what's called direct access to you if your company. Harder to find then for residential customers, but if you're a company, it's available in some states.

Paul Kaufman:

So that's one model that happened. There was a little bit of a reversal, some energy crises that took place, most notably California set that back on its heels. But then what happened is, again because primarily developments at the wholesale level, wholesale markets developed around the United States and there are several. There's not one, there are several. The Energy Reliability Council of Texas runs a market in most of Texas, separate and apart from the rest of the United States. MISO, the Midcontinent Independent System Operator takes most of the Midwest, certainly the Upper Midwest and there's others. PJM is another one. California ISO yet another one.

Paul Kaufman:

These markets, these sort of organized markets, if you will, created the ability for people that are independent parties to trade electricity and that in itself created liquidity, created lots of buyers and sellers in the market. And buys and sales of this electricity, as often happens when you try to make something a commodity, became somewhat standardized and they would be buys and sales of this electricity at various trading points. So the minute you create the trading points, you create the opportunity for financial transactions. You can't think about electricity anymore as a physical delivery of electricity, "I'm going to produce the electricity, I'm going to color code that electron and I'm going to deliver it to your doorstep."

Paul Kaufman:

You can't think about it in that fashion anymore in these markets. You think about it as a party developing the generation, that electron goes into the market, gets mixed with all sorts of other electrons and there's a price set at a point at this trading point to these trading hubs. So with these financial transactions, what you can do is you can trade that market price for energy for a fixed price of energy. It's called a contract for differences, essentially has one party ensuring that the other party will get a fixed amount of revenue, whether from the market or from that counterparty.

Paul Kaufman:

And then because it's a financial product, because you don't have to take direct service, we don't need that customer choice model, customers like Amazon, commercial and industrial customers can enter into these financial transactions where they're agreeing from a financial perspective to essentially guarantee a party that's developing this resource a certain amount of revenue through this contract for differences approach. On top of that, this commercial and industrial customer who may have interest in having a sustainable source of energy can then go and buy what's called renewable energy credits. From that resource developer and that resource owner.

Paul Kaufman:

And renewable energy credits, RECs, green attributes or called lots of different things, are essentially just a unit of electricity produced by a renewable resource that in turn somebody is certifying, has, in fact, been produced by that renewable resource. So this model, now under these VPPA, these virtual power purchase agreements or

financial instruments, is that the commercial industrial customer can enter into a deal with a resource developer where it's agreeing to this contract for differences approach for the energy and also agreeing that it will purchase the RECs. In fact, the supplier has to commit the RECs to that purchaser. And that's what a lot of these deals are that you read about. They're not actually purchasing the physical energy. They're getting served by their local utility or by some other source, but they are, in fact, committing financial resources to support the development of renewable energy.

Paul Kaufman:

The other model is you can have what's called sales behind the meter where someone else either owns the resource or the customer owns the resource, but what you're really doing is offsetting what you otherwise would be purchasing from, whether it's the utility or some third party provider, but you're actually having generation on your roof or on property that you own or adjacent to the property that you own. We often hear about this as distributed generation where net metering is another concept that you'll hear to a greater or lesser extent depending upon the size of the resource. But those are the models, starts with the wholesale, goes to this direct access concept and we're now in this world where, because of developments in the wholesale markets, we can have these virtual power purchase agreements held by people that Michael had mentioned like Amazon, Verizon, General Motors, Facebook, etcetera. That helped?

Michael P.A. Cohen:

Super helpful, fascinating too. Ben, anything to add to that?

Ben Hoffman:

No, I think that, as usual, that's a succinct and user friendly description of what is a complex history. What's exciting to me is where you go from there once that's available to corporate buyers, what they can do with it and what it does for individual projects in the industry.

Michael P.A. Cohen:

Why don't you take us there now? Where does that flow? What does that do for corporate buyers?

Ben Hoffman:

Well, for corporate buyers, it is a way to address a couple things. One is another topic that you have addressed on the past podcast, Michael, is ESG. And as organizations try to meet ESG goals, I've tried to find out how they're going to meet their ESG goals, right? It's one thing to say, "We want to accomplish some ESG strategy," it's another way to figure out exactly how to go about that. That's one way that they can do that for their investors. Another really good use of this for an organization is more customer facing. So companies that have large retail presence can go out to their customers and say, "We are creating our products with renewable energy."

Ben Hoffman:

Now, the realities of the technical aspects of it, as Paul described, maybe a little more complex than that, they may not be taking exactly the electrons from a wind turbine only, but they are financially committing themselves to supporting renewable energy development in a way that they are essentially spending those resources on

renewable energy and then turn around to the customers and say, "We are creating our products with renewable energy." And that is something they can say with a straight face. They are certainly supportive. A very high profile example of this, I think I sent this to you, Michael, is the Superbowl ad from Budweiser with Clydesdales and the dalmatian going through the wind farm to the fields and the camera panning out and say, "We now make our new beer with renewable energy?"

Ben Hoffman:

Another buyer is Estee Lauder, a cosmetics company. There's a number. Starbucks is a buyer. These are companies that understand that more and more of their customer base demands that they be responsible corporate citizens of the world and that one way they can meet that demand and express that responsibility is to support renewable energy.

Michael P.A. Cohen:

That's all interesting. You forgot the most important part of that commercial to me which was the use of Bob Dylan's lyrics and song in the background, particularly the Blowin' In The Wind lyric where the Dalmatian's ears were up and literally blowing in the wind, leave it to a drug manufacturer and peddler of alcohol (I view in the drug category) to come up with the most creative ads. I get the point. A couple of follow-up questions I wanted to stage before we get into a little bit more detail, why do you all think big tech accounts for one-third of the drive here? We've got four big tech companies that I mentioned, Amazon, Facebook, Google and Microsoft Corporation accounting for one-third of at least publicly disclosed corporate power purchase agreements in renewables.

Michael P.A. Cohen:

Is there some association or correlation to tech industry and the renewable drive that's beyond the warm and fuzzy of helping the planet?

Paul Kaufman:

A big driver, I think, for the high tech industry is sustainability and being on the cutting edge of whatever it may be, whether it is, in fact, we're going from a technological perspective or a market perspective with respect to Amazon or whether it's just because they have a group of people that are working there that are maybe younger and looking at something which is green. So I do think there's a significant element of that, but there's another one and that is that they all have very large datacenters. And these data centers consume vast amounts of electricity. They're just huge. And the benefit of this contract for differences is in fact that they also get a stable financial protection against variability in the energy price. So it gives them some protection financially as well.

Paul Kaufman:

But I think one of the big drivers is the sustainability goals and interests of the people that work there and who may be their customers as well as this major, major demand. These datacenters are huge and they consume vast amounts of electricity.

Michael P.A. Cohen:

There's a lot of interesting points wrapped up in that answer. It just struck me as you made your first point, Paul, particularly about the folks running those companies being younger. It does seem that the only people who don't want to get face to face with the fact that climate change is occurring, forget about the cause for a second, the fact is pretty clear. That's a physics fact, but it does seem that people who don't want to get behind that or face that fact tend to be what I would call the elderly side of the fence, that amongst young people politics isn't really an issue there. That fact is pretty widespread and in acceptance. And those people are now running major corporations and running these decisions. And that is likely true in a very permeant way across industries and across companies at this stage of world history.

Michael P.A. Cohen:

And I'm glad you did shake that out as part and parcel of the equation. And then, of course, the supply side or, I'm sorry, the demand side for a tech company in energy, citing that is an important thing as well. Do you see other industries, Paul, where you feel there is a likely heavier driver for corporate power purchase agreements or direct power purchase agreements than others or do you expect this to be a perhaps across the board phenomenon going forward?

Paul Kaufman:

I think it's across the board. You can look at General Motors, and it has been a major supporter of these types of transactions going back several years now. You can look at another steel company, Nucor, and certainly entities like Lowe's, universities. You can't minimize in this direction that we're going. Again a different instrument is used. This is behind the meter concept that I mentioned, but you have large chains like Walgreens or CVS or who have multiple rooftops across the country making commitments. A big supporter of this has been Walmart. You see Walmart in a lot of these VPPAs as well as other commitments to sourcing their own energy and renewable energy.

Paul Kaufman:

So you really can't characterize it, I think. And not to get political about this, but what's very interesting about renewables is putting aside the question of whether it's driven by concerns over climate change or other things, when you look over the past, I don't know, 10 years of the primary incentive given in the United States for renewable development, the tax credits. Some of the big supporters of that have been on both sides of the aisle, not just on the liberal or conservative or Republican or Democrat, but you've seen a lot of support for these wind farms and for these tax credits as a result, maybe I said that in reverse, but from all over the political spectrum.

Michael P.A. Cohen:

The political spectrum in America is chaos, but I hear your point, meaning that this isn't a political issue. There is political crosspollination and support for the transition to renewables because there are economic drivers as well as important climate drivers that can't be ignored. And it's a future not to be forestalled but occurring. And that does seem to be the feel at least around the world. And in fact, America really can't stand still on this because it now competes and no longer is a hegemon for the world's economies. It competes with other major economies including the European Union, China, Asian economies and others, and to the extent that those economies are able to achieve greater innovation and renewables at more cost-efficient measures, it puts those economies ahead.

Michael P.A. Cohen:

So there's literally external pressure, I think, around the world on governments to facilitate this change. And that's a new phenomenon that we may be experiencing only now, and forward, we'll see. What's your reaction to that, by the way? I just threw out some two cents, but is that something you all experience in this field, pressure on governments to facilitate transition to renewables as they compete with other governments managing economies around the world?

Ben Hoffman:

We, in the United States, have taken a largely state-by-state approach on that. And you're right, Michael, it is largely a purple topic, not a red, not a blue, not whatever color to assign to the various fringes and overlaps, but a sort of purple topic in that sense. Two of the biggest states supporting renewable energy development are California and Texas. And they couldn't be more different in a lot of different ways, but unless they're very much aligned in Texas because of the resources they have, but also because of the opportunity that they can see that this can be an economic driver for them. They're an energy state. Their economy is heavily focused on energy.

Ben Hoffman:

And yes, that has been fossil fuels, but it can be all sorts of different energy and it turns out, especially winds and more and more now solar as well. That's an opportunity for their economy. A lot of the offshore wind that's happening that's being developed in the United States is an opportunity for seaboard economies. Places with ports that are hundreds of years old and have been neglected in Connecticut and New Jersey are all of a sudden being revitalized because there needs to be a place to launch for construction and maintenance of these projects. It changes communities. And people who are driven by the economics can see that that infrastructure development is a benefit.

Ben Hoffman:

A lot of our clients, a lot of the developers in the space here in the United States are coming from outside of the United States because they were ahead of us, largely European, a lot of French and German and Portuguese and Spanish companies who were quite a bit ahead of the United States in terms of developing renewable energy on a utility scale had come in and frankly made a lot of money on us being behind. It has been useful to us as a nation, for sure, but us being behind on some of these technological developments and having our heads stuck in the sand on some of the issues that need to be addressed means that other people are making money that we should have been making. That's true

Ben Hoffman:

And I do think people are waking up to that and trying too. A lot of these new initiatives, especially for offshore wind, are very focused on trying to keep that economic benefit in the communities in which the end product will be constructed.

Michael P.A. Cohen:

It's interesting. Energy is historically an era at least in the 20th century where America was the innovator and leader. And it is an interesting to hear about the foreign direct investment in these technologies and infrastructures in the US. I do have some questions that are probably more practical, but just big picture, does

the Infrastructure Bill floating around the American Congress in whatever form stand to aid renewable development in particular? I think that's probably worth at least flagging or asking if you guys are tracking or following any of that morass currently because it's not legislation until it is, but there's a lot of discussion out there.

Ben Hoffman:

Yes, we are tracking on it, and yes, in the various proposals that have come across, there has been a variety of approaches that are beneficial to renewable energy, among other types of infrastructure. The specifics change it seems day by day as to which proposal is on the table. Some of it involves extending tax credits. Some of it involves trying to levelize the same type of tax credits or financial support across all types of generating technologies. So I think people know by now that we've been subsidizing oil and gas in this country for a very long time for very good reasons.

Ben Hoffman:

Actually, the energy security of our nation is an very important topic and that is part of what was driving that subsidization, but people also then know... I think it's a little more well known that we use tax credits to benefit solar and wind and biomass and other types of renewables. Although even without the tax credits, the levelized cost of these renewable assets are better than, as same as or better than fossil fuel at this point. Really, we don't even compare to coal at this point, we do compare it to natural gas, but it's cheaper than natural gas in a lot of regions. With levelized cost without the tax credits included over the next couple of years, plants that are being developed today will be cheaper than the fossil fuel choices.

Ben Hoffman:

So yes, there's some tax credit proposals. There's some proposals about transmission which is one of the big issues. I think you talked with Mark Sundback about transmission a fair amount. I think that continues to be one of the biggest challenges for this industry but also one of the biggest opportunities. Again, on this idea that you can participate, you can participate as a buyer of RECs and participate in the power markets, you can also participate as an owner and investor in all of these opportunities, because this industry is going to continue to boom, not just for generation but also for transmission. And that's been addressed in the Infrastructure Bill as well.

Michael P.A. Cohen:

That's interesting. Is the capital market, the booming capital market seeming endless boom in capital markets in the in America, is that helping aid the investment side of this then? Are we seeing Wall Street play a role so to speak?

Ben Hoffman:

Yes, there is a lot of money moving into the space. And then as the industry matures and the projects, the technology matures and becomes more predictable, the income streams become more predictable. If we have investment grade offtakers like Amazon, those are projects that are very attractive to investment by lenders and pension funds. We have a lot of pension funds that are continuing to move into this space, have been in the space for a while, a lot of private equity firms buying up platform companies. Oil majors are buying up platform companies. There is a lot of money moving into the space.

Ben Hoffman:

And in fact, that maturation in industry and the money that is moving into the space is dragging down returns such that people are investing earlier and earlier in the project's life cycles now to in order to get a higher rate of return because it's become such a ... while it seems avant-garde, it is actually at this point very mature in later stages.

Michael P.A. Cohen:

Super interesting stuff. Paul, back to you on this behind the meter model, if you will. Renewables have this ability to be geo located in much closer proximity to production. A steel maker that I was speaking with recently, I know you mentioned Nucor earlier, certainly a formidable steel innovator and a manufacturer in America, I was talking to a different company recently. And they were excited about the opportunity to build a new form of micromill, geolocated near renewable energy sources that we're in California high desert. And so there was some potential, right, for cheap production location and zoning that they could get rather than East Los Angeles, so to speak. Just that wasn't a play here by way of comparison. You don't have to be in East LA to be on the grid. You can be out in the high desert where the land is cheaper and build from scratch and still get energy.

Michael P.A. Cohen:

Is that at all in play and these behind the meter scenarios? In other words, is there the potential for the dispersion of production to geographies that might be suitable for renewables that aren't located next to utilities or need utility infrastructure? Does that make any sense?

Paul Kaufman:

With most things, it's probably slightly more complicated than it would appear so. Let's see. I had organized a response to this. So again, I always place things in the historical context because it's just easier to understand, I think. So you go back far enough like in the Pacific Northwest, for that matter, California and you look at lumbermills and pulp and papermills. And they traditionally had their own sources of electricity because if you were a lumbermill, you would burn hog fuel to get your electricity in a boiler. And you would burn other things if you were a pulp and papermill. And if you're a lumbermill, you're definitely located as close as possible to where the lumber is, where the source of your product is.

Paul Kaufman:

And so if you go back long enough, you see that colocation was very common. So now you look at, "Okay, what am I collocating and what are my needs?" You move it up a few, I don't know, decades and you look at, and I'm very familiar with the Pacific Northwest, for example, you look at the number of aluminum smelters located in the Pacific Northwest, enormous numbers of aluminum smelters. One had a contract commitment from Bonneville to provide 640 megawatts. That's almost like two-thirds of a nuclear power plant to serve this aluminum smelter. So again, you would colocate where the electricity was the cheapest.

Paul Kaufman:

So the concept is not new. For those companies that have high electrical demand, you want to locate as close as possible to the cheapest source of electricity, right? So now, you add on top of that, "Okay, what is the electrical demand?" and to the extent, it's a data center or something which requires a relatively constant supply of electricity like perhaps an arc furnace. You're going to locate where the electricity is most prevalent, most secure, most reliable, and cheapest. And so with respect to locating next to a solar project, there's a slight problem with solar when it comes to reliability 24/7 because in fact it doesn't produce when it is dark. And the same thing in terms of colocating with wind, which has to be in a windy area. Again not 100% of the time are you getting electricity from that.

Paul Kaufman:

So for colocation with renewable resources, you have to introduce another element and that other element may be existing resources or it might be the addition of a battery, depending upon how big your demand is. And batteries are becoming a relatively common thing these days and different types of batteries systems, but the most prevalent being lithium ion. And then you might see more colocation in areas where there's a tremendous amount of solar. Really what we're seeing in terms of colocation now is the reverse. And that is on existing facilities that have great roof space, you see the location of solar. If you fly in any major airport where it's sunny, even half the time, you'll find rooftop solar which is reverse of locating your plant where the sun is, it's locating your solar where their plant is.

Paul Kaufman:

So that's something that's very common right now, much more difficult to deal with wind because it's really difficult to colocate a wind turbine or a modern wind turbine on a rooftop, although there's some developers now looking at how to put wind turbines, smaller wind turbines, on rooftops and some of them are being very successful in that regard.

Michael P.A. Cohen:

I think it was a brilliant way to organize an answer to my babbling question. And I'm amazed that you even took away what I intended to ask and you did exactly and the term for it is colocation. I just didn't know that term, but I was getting at that last thing in particular, meaning the ability of the producer to colocate an energy source next to them, wherever they may want to be rather than colocating near the energy source. And I think that's kind of interesting and it'll be interesting to watch that chain going forward. Let me get to a question that gets to some nuts and bolts.

Michael P.A. Cohen:

If you're a corporation like a GM or a tech company or anybody across the sectors that has energy demand and are interested in entering into direct purchase power agreements, map that out for us. What are the some of the big questions that a business needs to think through in a transaction like that?

Paul Kaufman:

So the first part of it is this, that you have to first determine where your projects are located. Because you may be in a state that allows direct access and there are some third-party providers of energy that will provide you a renewable product. You may be in a state that has utilities that will give you essentially the equivalent of that. For example, Rocky Mountain Power in Utah has something called Schedule 34 which essentially creates a

back-to-back arrangement with a renewable developer, whether utility will purchase the energy from the renewable developer and then back to back sell it to the customer. So the first thing you need to figure out is, "Where are my plants located?"

Paul Kaufman:

The second thing you need to figure out is if you're located in a place that is not where you can get this direct service of electricity that I just described and you want to go more towards this virtual service that we have described earlier and discussed. The next thing you need to determine is, "Okay, how much electricity do I need in order to meet my goals?" which of course requires you to figure out what your goals are. "Do I have a sustainability goal? Do I have an electricity cost reduction goal? What are my goals?" so generally, the two of those things. So then you need to figure out, "Okay, how am I going to access the market for this stuff?" And there's really two ways.

Paul Kaufman:

Since VPPAs have become increasingly popular, there are a number of brokers out there that will literally go out, run an RFP for you, will help you negotiate the terms of the power purchase agreement and the commercial arrangement and then help you through the process of signing and executing the contract. But you can also do it yourself. If you're big enough and have enough demand, we've helped clients in the past run RFPs with renewable providers and you will get responses.

Paul Kaufman:

And they'll come out of the woodwork if you are an entity that has a reasonable credit rating, can show that there is enough credit rating there and enough financial support to stay in business for the period of time necessary for the developer to recover its load and you're in a market that is "liquid." So that if the customer goes away, you can sell your power elsewhere or actually you can actually sell your physical power. Then you'll have no problem finding somebody willing to supply you energy. And that's generally the process that goes along with that. Then you probably should talk about the flipside of that which is the developer looking at that customer is going to be looking at what?

Ben Hoffman:

Finance. In the end, these are very capital-intensive projects, hundreds and millions of dollars for the utility scale projects that we often work on, sometimes billions. And most of the developers don't have balance sheets to finance that. Some of them do. Some of them have access to the public markets. They're parts of much larger organizations and they have a cheap cost of capital, but most of them don't. And then even if they are able to sell finance, they still want to be able to monetize those tax credits, which is a huge driver, has traditionally been a huge driver of value, still is a meaningful driver of value of its transactions, which means that they need to go out to third parties.

Ben Hoffman:

And so they have to be able to create a financeable arrangement. Essentially the power purchase agreement or virtual power purchase agreement or contract for differences or however that works get set up depending on the type of plant and the type of the offtake, if its physical delivery, if it's they're buying just the RECs, if they're providing the fixed price, that needs to be sufficient to amortize that financing up over the term of that power

purchase agreement or equivalent. So the stability of the offtaker from a credit worthiness standpoint, the links of the power purchase agreements or equivalents are two key aspects of this.

Ben Hoffman:

And there are a variety of other terms that matter, but those are two key aspects because the developer needs to turn around and use that income stream to support its financing.

Michael P.A. Cohen:

That's fantastic. We've gotten two sides of a coin, but there's a third coin out there and that's the money itself, right? The investor. Are there additional issues? I suppose a better way to ask this question, Ben, might be, are there factors the investor may want to look at that we haven't mentioned with respect to the developer or the company in credit worthiness experience, the market opportunity, other types of things? What might an investor worry about that the other two wouldn't?

Ben Hoffman:

That's a show in and of itself, Michael? These are huge. And there are a lot of factors. There really are and it's not a very helpful answer, I know, but we go through an analysis that we look at the siting of the project and is it allowed to be there and under what terms and for how long and what are the environmental impacts of the project? We're all realistic, for example, that these are infrastructure projects, they disturb the existing environment, wherever they get put. Especially in this industry, we're very sensitive to that. We care. This is part of why we're in this industry. We care about the impacts that human activity have on our living environment. And so there's a lot of emphasis that gets put on that, "How does it impact? Does the construction impact environment? How does operation impact environment? Do we cultural resources studies? What else might be there that we might be disturbing we have to look into?"

Ben Hoffman:

Well, it depends on whether or not the investor is going to take construction risks, so I talked earlier about if you're investing in one of these, the investments are moving early and earlier into the project lifecycle in order to achieve a higher rate of return because the later stages of the project lifecycle have become much more mature, and therefore, the returns are not as high because the risk is not as high. But so if you're going to take construction risks, then as an investor or a financing provider, you're going to look at construction contracts, "What are the situations where there might be a delay? How long is that delay? Who's going to bear the risk of cost overruns?"

Ben Hoffman:

It is truly project finance in the full scale just like it would be for an airport or a toll road or anything, any other piece of large infrastructure.

Michael P.A. Cohen:

Right. That's wonderful. Thanks for taking a stab and I think you answered probably more fully than you even know, but I think the most salient point I heard from you is, "Michael, that's another show."

Ben Hoffman:

I think it is. Another interesting one, during the whole training series internally on but all of the pieces and it's going over nine months of training sessions, so that is the nature of what we do on a daily basis.

Michael P.A. Cohen:

Great. And I'm going to, if you don't mind, commit you to coming back on the Nota Bene Podcast and doing a show on just that when you feel that you're comfortable to do that. I have kept you both for longer than my bargain and you have been very grateful with your time or you have been, I'm sorry, very generous and I'm very grateful for it. Before we wrap up the show, I did want to see if there was anything that you feel our conversation missed just by way of big flags to plant that we should have touched on?

Ben Hoffman:

Nothing for me, but I will reiterate that this is a market that you can participate and multinationals can participate in this market and they should. We're thrilled to have them and it is not just a French startup world here anymore. And there are a lot of exciting opportunities, even with the status quo today, much less with what might come from the Infrastructure Bill.

Paul Kaufman:

Maybe the last thing to say, Michael, is that the direction that these commercial contracts have taken lately has been the move away from when which was the primary area where these commercial industrials would go to solar. Solar has become better understood. And what's fascinating about that is solar is increasingly challenged because of issues arising from the International importation of modules. And we've seen this several times over the past few years where there has been customs and tariffs and other things and recent concerns about where silicon is sourced from and where the basic materials that go into these modules is sourced from in China.

Paul Kaufman:

And so it's an interesting transition that we've seen from wind to solar, still a lot of wind being built and I still believe wind is a great resource. And solar, I think, has been a newer industry. Although solar panels have been around for a very long time, it's just that the use of them because their prices have dropped so substantially, it's increased dramatically. But I think solar still is going through some teething issues even though it has matured rapidly into a real industry.

Michael P.A. Cohen:

What a fascinating field you facilitate and practice in and what a directly on point message to our business audience who I'm sure is very interested in the opportunity, not just in America but around the world. And this is precisely the kind of show that we hope will give them at least some map of the landscape where they operate in substantial part. We are still the world's largest economic market and most of our audience does touch us in here in the US in some way. And you all have mapped out for that audience precisely how to participate at least in the biggest chunk of North America. So thank you again for being on the show.

Paul Kaufman:

You're welcome. Thank you for the opportunity. It's been great.

Ben Hoffman:

Yeah, thank you very much. It's great to talk about this. We're passionate about it, so we love to talk about it.

Michael P.A. Cohen:

Well, that's it for this week, folks. Next week, we will begin our quarterly rotation in the world's economic markets where we will begin with the United States in our Q3 check in, then turn to Europe, Africa and Asia and some semblance of order after the United States. So as always, please stay tuned. And thanks so much for listening.

Resources Mentioned:

The Wall Street Journal article, "Amazon and Other Tech Giants Race to Buy Up Renewable Energy"- <https://www.wsj.com/articles/amazon-and-other-tech-giants-race-to-buy-up-renewable-energy-11624438894>

Contact Information:

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Ben's Sheppard Mullin attorney profile - <https://www.sheppardmullin.com/bhuffman>

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