Achieving Budget Certainty for Clean Energy Buyers Transcript

Tara Bartley: Good afternoon. Thank you very much for joining us for today's webinar achieving budget certainty for clean energy buyers. Lee Taylor, our CEO will be our main speaker for today. You have all been muted, but we do encourage you to ask your questions via the Q&A functionality online, and once Lee is done with the presentation, we will go through those questions. We have a lot of great content here to pack into 30 minutes. So we are going to get started. I'll turn it over to you, Lee.

Lee Taylor: Thank you very much, Tara, and thanks everybody for joining today, taking hopefully a productive lunch break. My name is Lee Taylor. I'm the CEO of REsurety, and excited to get to cover this topic today, which is something we talk a lot about with many of our customers. And based on the number of folks who signed up for this webinar and have already dialed in, it looks like it's a hot topic to cover.

So given that we're going to try to keep this under 30 minutes and keep time for questions, I'm just going to dive straight in. For those who I haven't met already or aren't familiar with, I'll give a quick introduction to the company. I'll talk a little bit about the risks that are inherent to vPPA or PPA settlements, talk about some of the tools that are available to buyers to achieve higher certainty in the settlements, walk through a few use cases, and then highlight a recent announcement we had on a project called Clean Trade that we believe will help facilitate easier access to risk management tools for clean energy buyers.

REsurety is a 13-year-old company. I'm sitting here in Boston where our company is headquartered, along with the vast majority of our team. We provide exclusively the data, software and services, as well as marketplace capabilities to utility scale wind and solar off take and investments. Our customers are the large scale buyers and sellers and investors in utility scale energy infrastructure that is intermittent, that is wind, solar and increasingly storage as well, with the end goal being to drive to support more informed decision making, as well as to manage portfolios after procurement and investments have happened.

Today we're talking specifically about clean energy buyers, so I will highlight some of the work we do specifically with that community. Our customers represent everything from technology companies to green hydrogen, oil and gas, as well as consultants and brokers who support those groups who are trying to enter into these sorts of transactions.

From a scale perspective, today we support a little over 250 utility scale PPAs. That means we are supporting the settlement, auditing, accrual, budget, forecasting, explaining of different deviations between budget and realized outcomes. We've done that for over 250 contracts. We've supported nearly 2000 contract months settled and under our combined trading advisor capabilities, have supported hedging bilaterally for over 7000 megawatts of transactions. Those are for projects who are hedging out of merchant risk that they hold, as well as clean energy buyers who are hedging out of the risk inherent in their PPAs.

Before diving into what the tools are to manage risk, I just want to give a high-level view of what sort of risk we're talking about here. As an illustration, I've assumed that I have 150 megawatt PPA in each of some of the four major markets where a lot of renewable procurement has happened, particularly from corporate buyers. This is across ERCOT, MISO, PJM and SPP. Each one of these, it's important to point out, has been assumed to be at the price such that it would break even over this period. So said another way, none of these contracts are assumed in this graph to be in or out of the money overall. Obviously, some of these prices are meaningfully lower than would be executable today. The point isn't to show whether a contract is good or bad overall, just to highlight the cash flow volatility that comes with the settlements of PPAs.

What we're seeing here is based primarily off of a function of weather and gas prices, you get high highs and low lows. So an individual quarter, it's not uncommon for a single contract to have one, two, $3 million swings in settlements positive or negatively, and to that number to very quickly get to the 10 million plus when you're talking about a year, certainly if you're talking about anything more than a single project and into portfolios. So that volatility of that one, 10 million plus volatility quarter to quarter, year to year, is what a lot of our customers particularly following 2024 where power prices were not only low, but typically lower than most were expecting. So a lot of questions came up around, how can we avoid budgeting misses and manage the risk associated with PPA portfolios as a corporate buyer who is in these transactions for either sustainability reasons or sustainability plus hedge efficacy reasons around electricity consumption costs.

With that as the sort of definition of we're talking about cash flow volatility, I'll just dive straight into the first tool, which is forecasts. I think it's really important to point out there is no such thing as a correct forecast. If I knew what power prices were going to be in a given market next month or next year, I would have long ago traded against that and retired. So there is no such thing as a known forecast, but there are good forecasts and bad forecasts. From our perspective, a good forecast has two components. One, it has very high confidence in the expected value of what is going to happen under expected conditions. By that, I primarily mean fundamentals, what projects are going to get built, not built, what, importantly, what natural gas prices are likely to be, and then also under typical weather conditions.

Beyond that, though, visibility into the scale and drivers of risk around those settlements is equally important, because knowing the expected value of a PPA settlement is going to be $1 million plus minus half a million is a very different budgeting challenge from a $1 million expected gain plus minus ten million and so getting into that visibility is key. In terms of what we would consider a bad forecast, one that we would not encourage, which I think is still fairly common in the market, is to use market forecasts. These are traded curves. These are peak off peak, or around the clock forwards of the electricity price that then get multiplied by the volume of a given project. So you use solar output or an 8760 if you're trying to estimate the forecasted value using a traded curve. The challenge with that is that increasingly, in markets, particularly places like SPP and MISO and California and ERCOT Texas, where you have very high penetrations of renewables, there's a causal relationship between abnormally high generation, like a high wind period in MISO and depressed power prices and vice versa. And so that

concept, which is often described as capture rate, how much of the average power price does an intermittent asset capture is often missed in using those 8760 based forecasts.

But for those who are looking for some beach reading now that it's spring, I would recommend that you take a look at this that we have on our website. It's called *"Friends Don't Let Friends Use 8760"* — it's a white paper we wrote in partnership with investor HASI around the challenges of using that sort of fundamental trading curve with fixed quantity of power. What we would recommend is a forecast that is bottoms-up, a fundamental approach that takes into account the weather conditions that would drive both price formation in a given grid as well as generation of a given asset. And so this is why a coastal ERCOT wind project versus a coastal project or a project that is just 100 kilometers inland in Texas can have very different outcomes because of the timing of generation of that specific project and how those correlate with power prices.

So in this scenario, we were looking at, for a client, a project that was forecasting its budget for 2024. This is using data forecast as of 2023. The gray line represents what would have been predicted if you'd used a forward curve — the traded curve — that you multiplied times the output of the project. The solid blue line is what we would forecast from a fundamental basis of the settlements of that project. The range around that — the dotted lines — being the P95 and the P5, that are a function of weather. So in this case, everything that is blue is all the same assumptions around gas price, around buildout on the grid. The variability there is just purely what happens — do you have a hot summer? Do you have a cold winter? That's driving the variability there. In terms of what the project actually did — is this green line. So it's important to note, in the first half of the year, those lines overlap very closely. So the expected outcome happened. It was normal weather. Gas prices were fairly close to what was forecasted at the time going into the year, and so price formation matched expectations. Coming into the summer, this was a period that had an abnormally cool part of the summer where the scarcity pricing did not appear, and that's why you have actual settlements coming in below expectation, but still well within the P95 to P5 range that's implied by different weather scenarios.

To put that more into practice with our customers, this is a screenshot of our Manage tool. Here we're looking at the baseline scenario. This is assuming gas prices are the expected case. What is the expected settlement of a given project, taking into account its specific technology, its specific location, the specific terms of that agreement? What's the settlement point, day-ahead, real-time, treatment for negative pricing, etc. So all of that flows into what is the bottoms-up expected value — which is the solid line. The gray area around that are the ranges that are driven by weather during that period. So if you see, for example, the top line under net settlement for August of 2025 — this solar project is one where we are expecting the PPA is going to settle, on average, $1 million to the buyer's benefit. That range, however, is between $200,000 and up to $2.4 million — which is very heavily driven by weather. July and August end up being hot, as well as how that temperature correlates with cloud cover, and the impact that has on solar generation on average. So that rigorous expected value, along with weather, is then complemented with views of different high and low gas prices. So if you're saying, "I want to understand what's the downside case in the event that gas prices come in meaningfully lower

than their current traded value or, meaningfully higher" you have the ability to essentially look at those commodity shock scenarios, along with weather around each of those. So that covers how, from our perspective, you should drive confidence in your budgets, what your expected value is, and your confidence around the range of those expected values. That drives into your budgeting scenarios.

To state the obvious, a good forecast doesn't actually change your risk profile. Goes without saying for folks on this call, electricity, wholesale electricity at the hourly level or sub-hourly level is one of the more volatile commodities on the planet. And so as a result of that, there is just always going to be risk. Good forecasts give you a better understanding of that risk but don't change that. Increasingly, clean energy buyers are turning to hedging strategies to make sure that they have control over what their budgets are in the coming month, quarter, or years. And that's what we want to talk about in the second half of this discussion here.

So when we talk about this with many customers, it often comes as a surprise that there *are* options to hedge PPA prices. PPAs are almost always project-specific contracts. They have sometimes bespoke terms included in them. They've often, for that reason, been considered essentially "set it and hope for the best," or "set it and forget it." Very few people forget it, but I also will stick with "hope for the best." But the goal is, increasingly, corporate buyers want tools to assess the amount of risk they want to hold. That's either because they decide they are holding more risk currently than they want. We talk to a lot of buyers that say, "I'm comfortable with the risk I'm holding right now, but I need to sign one to five more PPAs to keep up with my sustainability strategies or my procurement strategies for direct power procurement. And I need to reduce the risk of my existing portfolio in order for me to add new risk through new contracts." Because of that, we see buyers increasingly looking for options to hedge their PPAs, either to reduce their exposure, at least in the near term, to a speculative commodity exposure tied to their sustainability strategy, or to improve the hedge efficacy of VPPA contracts. Because almost no VPPA buyer has a consumption profile that looks like the output of a wind or a solar project. And so the ability to manage that from a hedge efficacy perspective is attractive to many buyers. Historically, we've been supporting these, and I'll go through an example in a moment, from a bilateral basis. I will spend a little bit of time at the end of this talking about a partnership that we've been working on since 2021 to launch a platform to provide significantly more transparency and liquidity into these sorts of contracts that are contra project-specific, as-generated hedges.

To put some meat on the bones of what I mean by a project-specific hedge: imagine you're a corporate buyer that signed several years ago a PPA for a 150 MW project. We can assume this is an ERCOT project for illustrative purposes, and let's say there's a little over five years left on that PPA. This was signed many years ago, so let's assume the power price was $28/MWh for that PPA. This would be bundled power plus RECs at that price. I do understand that the clearing price for projects today — certainly new-build projects — is meaningfully above that, but we do work with a lot of groups that have signed projects at lower prices. In 2024, the average wind farm was producing power, and actually significant portions of the solar fleet in Texas were producing power, about $20 plus or minus $2. So we assumed for this project a

$19.50 settlement for 2024, which means for that size of project, that project individually would have lost in their PPA settlements about $4.5 million.

Assume you're in a position where Treasury or Finance says, "That's more volatility," because this was a PPA that was expected to make money in 2024 and instead it lost $4.5 million. So you look for an option to hedge out of that exposure on a going-forward basis. Either bilaterally or through our launch of Clean Trade, REsurety sources a VPPA hedge at $32/MWh, that's power only, with no RECs, on an as-generated basis for the remaining term. If you as a buyer sign that VPPA, ultimately what happens is you have bought a bundled PPA with RECs at $28 and sold an unbundled PPA at $32. So first and foremost, you have locked in a budget certainty of $4/MWh as net settlement between these two contracts. It's worth pointing out there are other things to consider, like credit risk, that we're not getting into here. But putting those aside, by buying a contract of as-generated power at 28 and selling it at 32, if power prices go up, you're going to be receiving payments from the project and then paying payments to the hedge counterparty on your PPA hedge, which nets out to $4/MWh. Similarly, if power prices are much lower than expected, you're going to be writing a check to the wind or solar project to settle the PPA, and you'll be receiving a check from the hedge counterparty that nets out to that $4/MWh. Again, providing you that visibility and certainty around what your net settlements would be on a hedged basis.

It is important to note that the majority of the corporate buyers we work with are looking to achieve more budget certainty, but don't want to change the sustainability goals that they entered into that PPA in the first place. So by signing that PPA pre-COD with that project before construction, the same additionality claims that you got that project built through the hedge provided to the project still stand, and you can continue to receive the RECs under your bundled PPA for Scope 2 carbon accounting under the Greenhouse Gas Protocol. I do want to highlight that these are not just illustrative examples, these are not hypothetical scenarios. These are contracts that are closing today. We have worked with multiple buyers who have been hedging across PJM and MISO, and a large fleet is currently looking to hedge in ERCOT as well. More are coming into the ERCOT, PJM, and MISO footprints on a go-forward basis, as well as SPP. The majority of what we've seen has been power-only. These are corporate buyers who want to hedge out of the volatility of their PPA settlements, but still want to retain the environmental attributes of their contracts. While contract terms vary, anywhere from three months to twelve years, most corporate buyers seeking to hedge tend to prefer the one, three, to five-year range. That range allows them to achieve budget certainty while still maintaining a long-term hedge against general movements in electricity prices.

So back to that example we walked through earlier, just to illustrate what this would look like when providing forecasts to finance. The first half of this discussion was focused on high-quality forecasting. That means giving visibility into scenarios where gas prices are higher or lower than expected, or on target and factoring in weather variability. On the left side of the screen, we showed the expected monthly settlements of a 150 MW PPA with a $34/MWh price in West Texas. You could see a great deal of variability, both from weather and commodity input. The right side of the screen showed what that translates to for monthly settlements if you enter into a

three-year VPPA hedge. What ultimately happens over those three years is that your risk profile changes, the net settlement of the two contracts becomes a straight line. That's because the difference between your hedge, assumed here at $36, and the original PPA at $34, means you've effectively locked in a $2/MWh net settlement. When you translate that into dollars, you'll note the cash flow still changes month-to-month because generation volume varies, but the variability in volume is *much* lower than variability in price. That's why, post-2028 when the hedge rolls off, you're back to full exposure. So, as you move through these transactions, you can decide whether you want to continue layering on hedges or return to full market exposure. But that transformation from highly variable settlements to more stable, predictable ones is what a properly structured hedge delivers over the term.

Lastly, before we take a break for questions, I want to revisit something I mentioned earlier. Over the past three years, starting in 2021, REsurety has been working with Citibank to launch what will become, following CFTC approval, the first regulated marketplace to support financially settled, as-generated contracts. For those on the call familiar with ICE, whether as an exchange or a swap execution facility used to manage natural gas, fixed energy, or fixed quantity contracts like on-peak/off-peak, or for those using Bloomberg for management of FX swaps, interest rate hedges, or credit default swaps, there are marketplaces for nearly every type of financial or energy-related swap. However, there has not been a marketplace that provides transparency and liquidity for as-generated power, due to the project-specific nature of these contracts. That's what we've been building for the past three years. We privately launched at the end of last year and will fully launch soon, pending final CFTC license approval. Several folks on this call are already in the process of being onboarded to that platform, and we'd love to connect with anyone else who's interested in exploring it as a tool for their hedging or procurement strategies.

If you have more questions about that specifically, you can find additional details on our website. Otherwise, with the remaining six or seven minutes, I'd be happy to take questions submitted through the Q&A.

Tara Bartley: Great, thank you, Lee. Well, I didn't lie — that was a *lot* of content that you got through in a very short period of time. We've done a fair amount of webinars here at REsurety, and we have never seen such a long list of participants. So thanks again for joining. And we do have quite a few questions that have come in here. So I'll get started. The first is, how far out do maturities forecast go? Five years, ten years, twenty years?

Lee Taylor: 20 years on the fundamental perspective. So they start out with the prompt month, and all forecasts are done at the hourly level, are printed at the monthly level and go out in 20 years.

Tara Bartley: Can you further explain hedge efficacy?

Lee Taylor: Sure, happy to. One of the things that comes up a lot in discussion with buyers is the view that a PPA is a good long-term hedge on their energy costs, so if energy costs go up, that should be offset by payments from their PPA. Often, it's the case that for the next one, three, or five years — either because of a retail agreement or utility agreement — the price of

power being consumed is fixed, or at least not as variable as wholesale power. What that means is that, during that period, your PPA is really just a speculative position in the value of electricity generated by the plant because it's not matching a corresponding wholesale exposure. By hedging out of those first few years while maintaining the long-term hedge against major movements in gas prices over time (which would impact future retail rates), you can improve hedge efficacy. Another example we see is when a customer's power consumption is in one market, but their PPA project is located in another, sometimes even across the country. In such cases, the correlation between their consumption costs and the generation value at the PPA site is low. So it can be more useful to hedge out of that near-term exposure and enter into another hedge that more closely matches their load shape. At the end of the day, hedge efficacy is about how well the settlements from an as-generated PPA match the volatility of your actual electricity costs.

Tara Bartley: Okay, next question, what would be the key difference for value propositions of clean trade versus other PPA marketplaces out there, for example, what does being the first one to be CFTC compliant provide?

Lee Taylor: As I mentioned, we've been working with Citibank for three years to achieve what's called a *Swap Execution Facility* (SEF) approval. That's the license needed to operate a many-to-many marketplace for financially settled contracts. VPPAs, which are typically structured as financially settled contracts for differences on energy prices are considered swaps under U.S. regulations. To bring visibility and standardization to those trades, a SEF is required. This facility, which we're working with the CFTC to finalize, aims to provide the same level of transparency and liquidity that already exists in other markets, such as oil and gas, through the Intercontinental Exchange (ICE). Our goal is to bring that transparency to *as-generated* power, which represents the majority of transactions in wind, solar, and increasingly, storage.

Tara Bartley: Okay. Next question, who is buying the power only PPAs, without Rex?

Lee Taylor: There's a wide range of groups buying that power, everything from speculative traders to retailers to energy storage operators. Many of them are looking to increase their exposure to the volatility inherent in VPPA settlements, which they can then manage physically through storage. We've seen a growing number of those players entering the space. Pre 2021, it was less common for traditional energy traders to work with as-generated contracts, but in part due to the impacts of winter storm Yuri and otherwise, it is basically unpalatable and unfinanceable to hedge as generate power with fixed quantity contracts. So in the years that have followed, and this is again part of the reason we partnered with Citibank to build this platform in the first place, the ability for those parties who are traditional energy traders for power, gas, etc, to enter this market is becoming increasingly important, as we think about if you look back at 2024, 96% of the net new generation built in this country and international wasn't far behind was wind, solar and storage. We see that as the primary source of rapid growth of supply, there's a need to provide liquidity around managing those, whether it's a year out, three years out, or 15 years out. So that's a spectrum that's coming from that, in response to the

growth of intermittent power as a going from what used to be a niche to being a major driver of the power markets overall.

Tara Bartley: How does the hedge layer onto your existing VPPA? Logistically, does the buyer's Counterparty, developer, project owner need to be involved?

Lee Taylor: If a corporate buyer wants to hedge out of their PPA, technically the project doesn't need to be involved. It's a separate transaction, not a novation of the original PPA, so it can be done without the developer or project owner even being aware. That said, in practice, there's usually communication between the offtaker and the project developer. One of the biggest reasons is data sharing, ensuring the hedge counterparty has access to as-generated volumes and settlement data. So while it's not required, it's fairly common for the project and IPP to be looped in.

Tara Bartley: How would we treat such VPPA hedge contract accounting wise? Would it trigger derivative accounting under GAAP?

Lee Taylor: Good question, that comes up a lot. I will start with that I am not an accountant, so I don't give professional accounting advice. That being said, when you think about a VPPA hedge, it is still an as-generated contract where you don't have a commitment to a fixed quantity, or there is no known notional quantity. Under U.S. GAAP (not IFRS), most PPAs like this are accounted for on an accrual basis, not as derivatives, precisely because you don't know how many MWh are being delivered each hour. The same logic applies to the hedge: it's not a fixed quantity agreement. For the reason that you don't know how many megawatt hours you're buying every hour, the same is true of the offsetting hedge. It is an as-generated contract. So in nearly every conversation we've had, the accounting treatment for the hedge has mirrored that of the underlying PPA. But I would recommend you speak to your accountant and not take that as professional advice.

Tara Bartley: Okay, Lee, let's squeeze one more in. Can these additional hedging structures be used on the generator side to manage VPPA settlement volatility, or just on the load side with the mismatch on load shape versus contracted production?

Lee Taylor: These products are definitely not just for buyers. This webinar is focused on buyer risk exposures, but these same tools can be used by merchant generators. If you've a project that recently rolled off a hedge or only partially hedged your output, and you're now looking to increase your hedge ratio, you can absolutely add a one-, three-, five-, or even ten-year hedge to manage that volatility. At the end of the day, this is a hedge on as-generated power. If it's a VPPA, it's financially settled, you're not taking physical delivery, so it's available to whoever is holding the risk exposure from the contract-for-difference structure.

Tara Bartley: Okay, I think we are just about at time here so we can wrap things up. Thank you very much everyone for joining. As I mentioned, we recorded this session, and we'll be sending

you a link to the recording via email tomorrow. Thank you, Lee, for a great presentation, for answering all those questions. There's still a few remaining, and if we didn’t get to your question, we will reach out to you separately to answer it. Thanks everyone for joining. I appreciate it. Please reach out if you have any questions we weren't able to answer today.