3 Ways to Maximize the Effectiveness of Your Renewable Energy PPAs

REsurety

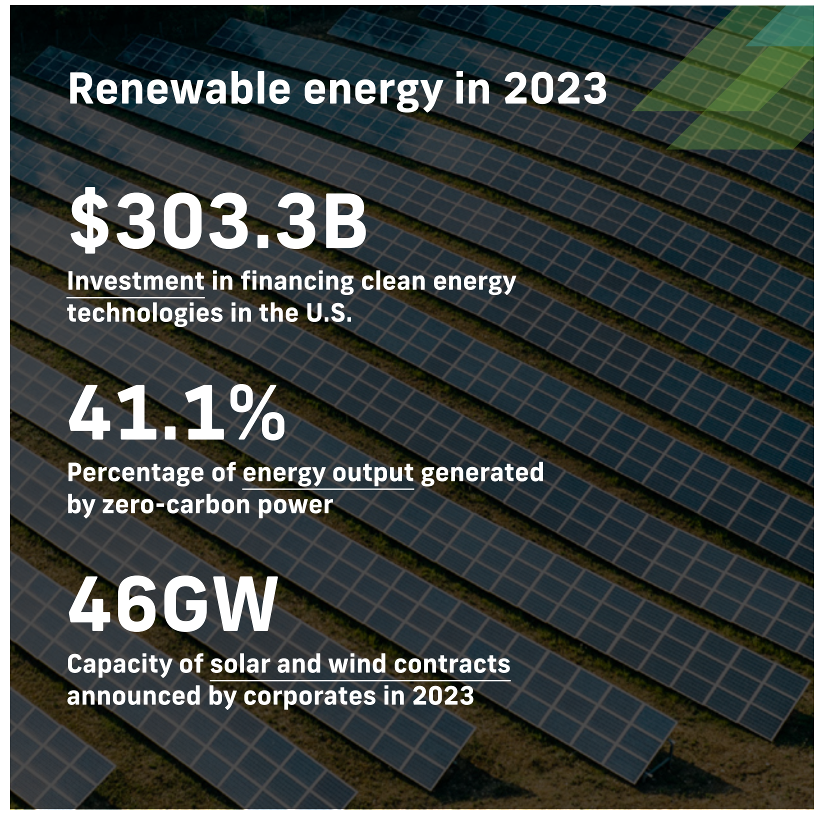
As environmental, social and governance (ESG) commitments grow and net-zero targets proliferate, more and more companies are signing clean energy power purchase agreements (PPAs) to help meet their sustainability goals.

Corporate PPAs have enabled a significant portion of renewable energy development. In 2023, corporate PPAs accounted for a record 46 gigawatts (GW) of solar and wind contracts (up 12% from 41 GW in 2022, itself a record year).

As more companies sign PPAs, they act increasingly like investors and face similar risks. Energy is often considered to be the most volatile of commodities, with prices varying greatly day to day. “Wholesale power prices are extremely, extremely volatile, and these companies are taking on exposure to those prices. They are increasing their risk,” said Adam Reeve, SVP, customer experience at REsurety, a provider of software and services to support the financial and sustainability goals of clean energy buyers, sellers, and investors.

While long-term contracts such as PPAs can help companies hedge price risk in the long term, they may also result in significant short-term losses if not designed and monitored carefully. Unfortunately, many corporate renewable energy buyers are not set up for this kind of due diligence and monitoring. They often don’t have the teams or tools required to minimize risk and maximize effectiveness of their PPAs.

With the right mix of human expertise and purpose-built tools, committed companies can set up and monitor their renewable energy PPAs in ways that help maximize the effectiveness of their purchases. This playbook identifies three key steps clean energy buyers should take to minimize risk exposure and maximize the effectiveness of their PPAs.



1. Conduct proper due diligence

Clean energy purchases require a significant amount of due diligence, including commissioning engineering reports and analyzing past projects' successes and failures. However, many companies focus on the physical aspect of this due diligence and pay less attention to the contractual terms within the PPAs they are signing. Given the incredible complexity and customization of purchase power agreements, however, many companies may not realize everything that's in their contract terms.

Reeve emphasizes that companies should consider both the financial terms of the PPA contract and the project location and technology from an emissions perspective in their due diligence process.

Fair contract terms

PPAs typically include a number of bespoke and complicated terms, each with financial implications. It's critical that companies understand the terms of the PPAs they sign, both in the short and long term. Working with a partner that can support analysis of the financial implications of your PPA can really help companies that don't have the experience or capacity to do this in house. An experienced partner can help your company ensure that there are no "gotchas" hidden within the terms of your PPAs, and that your invoices correctly apply those terms.

REsurety's professional services team help energy buyers model their contract terms and understand how particular clauses might be activated. If you have certain scenarios, such as negative pricing, for instance, you need to know how common that is in certain markets and if it is something you need to worry about. Is it something that could happen in the future? What happens if more transmission is built out? The power grid is not static so you need to have an idea of the possibilities and what could happen with some of these clauses and components of these contracts.

The power grid is not static so you need to have an idea of the possibilities and what could happen with some of these clauses and components of these contracts.

Location and technology type

Companies should carefully consider the project location and technology from a carbon perspective. Your project's location can double or even quadruple its carbon impact, affecting your total renewable energy certificate (REC) generation. Carbon impact differs depending largely on transmission congestion on the power grid. The location of a project, and how congested power lines are between the site of the project and areas with more power demand, helps determine whether the electricity generated displaces fossil fuel-generated power or gets curtailed due to congestion.

2. Monitor and predict financial and operational performance

Companies should closely monitor the financial, operational, and carbon performance of their renewable energy investments to minimize losses and accurately predict their future financial and sustainability impact.

Budgeting: Accurately forecast financial settlements

Energy prices are known for their volatility, so the ability to accurately forecast financial settlements — whether in the short term for the coming month or in the long term over the coming years — is critical for your finance team.

Reeve says that this is perhaps the most important metric for companies to pay attention to. Companies might expect to make millions of dollars a year from their PPA, for instance, but find themselves losing that money instead — a huge difference. “Without the ability to explain *why* the settlement is different from expected, and forecast it going forward, the finance departments within these companies lose confidence in their sustainability team’s ability to manage spending effectively, hindering future sustainability initiatives,” he explained.

For example, a project’s performance might mean your company should expect to pay out more in the near term but recover these costs over the long term by selling off additional RECs. In some instances, this may not be the case. To better predict such a scenario, Alves recommends considering several factors, including long-term weather trends, generation models for the technology (e.g., solar, wind), the energy market, and location.

Portfolios

As they gain confidence, companies may look to diversify their clean energy purchases across a range of energy types and regions. As with traditional asset management, a portfolio approach can help renewable energy buyers mitigate risk across any given period.

Auditing: Confirm you’re billed the correct amount

PPA contracts often contain complicated clauses that affect how much you are expected to pay in a given month. However, once a contract has been negotiated, monthly billing is likely handled by an entirely different team, and mistakes often find their way into the process. Invoices may fail to include modifiers such as fees or market incentives, or they might make simple but critical mistakes, such as forgetting to adjust for daylight savings in solar projects or using data from the wrong project.

“We see errors in pricing frequently, often around daylight savings time shifts,” Reeve said. “While this sounds trivial, it can result in cascading miscalculations that impact every hour after daylight savings time that month, leading to weeks of errors.”

Over time, these minor — and occasionally major — mistakes can easily add up to six figures. Companies should have access to independent data that allows them to audit invoices against reliable models that reproduce the terms of their PPA and the conditions at their project sites. This kind of auditing is essential, ongoing due diligence that will help you minimize losses and maximize the effectiveness of your PPAs.

> “We see errors in pricing frequently, often around daylight savings time shifts. While this sounds trivial, it can result in cascading miscalculations.
>
> **Adam Reeve** | SVP, Customer Experience, REsurety

Explaining: Understand why a contract may have underperformed over a given period

In clean energy PPAs, month-to-month discrepancies are not always mistakes. While financial metrics can help explain and predict how much your PPA will cost over the short and long terms, operational metrics can help explain *why* a project underperformed or overperformed over a particular period.

For example, perhaps a solar project has underperformed even in the middle of the summer, or a wind project was curtailed despite higher-than-average winds. In these cases, invoices may not give buyers all the information they need — buyers will need to source more data, ideally from a reliable partner, to get clarity. Maybe a turbine is down for maintenance, or hail has damaged solar panels and the insurance claims are yet to be paid out for repairs. Or transmission line congestion could be the culprit. Because renewable energy providers often don't share this information, operational metrics and insights provide critical context about a project's performance alongside monthly invoices.

Tracking operational metrics can also reduce surprises. Reeve notes that clean energy buyers are often surprised at how often clean energy projects underperform relative to expectations. "Buyers are now exposed to that, so they won't get the same number of renewable energy credits that they expected, and then, as a result, they're at risk for hitting their sustainability goals," he explained. Having a clearer picture of operational metrics makes it easier to forecast and plan ahead, or make adjustments as necessary.

Up-to-date financial settlement reporting: Support your finance team's needs

Teams responsible for regular financial reporting need to anticipate if they will be required to pay out at the end of a PPA settlement period. Invoices often vary significantly and only come in several weeks after the end of a reporting period. To plan ahead and accrue expenses, companies must accurately estimate payments.

For example, REsurety helps companies model project performance to understand what they should anticipate. REsurety has weather data that is pulled in from various public sources with market prices, and will model generation to be able to get an anticipated settlement based off of the contract that the customer has. The team can give customers an idea of what is anticipated to be closing out on as the quarter comes in and accruals can be more closely aligned with actual expenses to ensure that there aren't going to be any big surprises.

This is all about helping your finance team get prepared for what's coming — and finance teams love to be prepared.

3. Align carbon performance to sustainability goals

For most corporate buyers, renewable energy PPAs represent commitments toward sustainability goals or net-zero targets. This means that PPA effectiveness is not all about financial performance — carbon performance is critical, too.

Corporate buyers need to continually monitor total carbon abated and RECs generated to ensure these RECs align with their Scope 2 sustainability goals. At any point during the contract, buyers should have the answers to questions such as:

- **Based on my project's current performance, will my company have enough RECs to meet its publicly stated goals?**
- **How will a low-wind or a high-cost year affect our sustainability commitments?**
- **How does my project's location affect its carbon impact?**

Address red flags for carbon performance quickly, whether that means adjusting sustainability goals or supplementing with additional REC spot purchases to cover shortfalls.

Alternatively, an oversupply of RECs might translate to additional revenue if your company chooses to sell the excess credits. Whether your PPAs underperform or overperform from a carbon perspective, it's important to know early and act accordingly.

Access to up-to-date carbon performance data for your projects, combined with the ability to model future carbon performance based on a range of scenarios, is necessary for companies whose PPAs are a cornerstone of their sustainability strategies.

You don't have to navigate PPAs alone

In a time when the triple bottom line matters more than ever, companies must get their renewable energy purchases right. To maximize the effectiveness of their planned purchase agreements, companies must evaluate purchases carefully, ensuring the terms are fair and that project locations and technology types align with their sustainability goals. Throughout the duration of the contract, companies should monitor a project's financial and operational performance carefully, audit invoices closely, and forecast settlement payments to avoid costly surprises. Finally, companies should also track carbon performance to ensure that a project's REC generation will meet their sustainability commitments.

The best way to evaluate, monitor, and build an effective clean energy portfolio is to partner with an expert provider — one that knows the clean energy space and can combine deep human expertise with complex technological capabilities.

REsurety

REsurety

About REsurety

REsurety is a mission-driven organization dedicated to accelerating the world's transition to a zero-carbon future. We provide software and services to support both the financial and sustainability goals of buyers, sellers, and investors of clean energy. Our software offers data-driven insights at various stages of the project lifecycle from initial exploration to portfolio management. Our services leverage our domain expertise and deliver solutions tailored to the unique needs of our customers.

Book a demo with REsurety to understand how our team and platform can put your renewable energy investments on track for long-term success.

Get in touch