



BUILDING
AN ONSITE
ENERGY
PROGRAM

VECKTA

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As the saying goes among energy nerds, “Once you’ve seen one microgrid, you’ve seen one microgrid.” Given how unique and customized each facility’s energy needs are, deploying onsite energy systems at scale has traditionally been inefficient and time-intensive. To get around the complexities of assessing their portfolio holistically, companies cherry-pick the larger facilities, focus on high-cost regions, bundle sites together, or work with a small set of contractors to get the job done.

While this moves the company along on its energy transition journey and is commendable, it’s not the approach that will result in the greatest ROI. In this quick guide, we outline the basics of how to build a streamlined, data-driven and optimized program for deploying onsite energy systems that maximizes ROI and gets projects built sooner. There are five core aspects of our recommended approach:

ONE | IDENTIFYING THE RIGHT SITES

TWO | CONFIGURING THE RIGHT SYSTEM

THREE | ENGAGING THE RIGHT PEOPLE

FOUR | CHOOSING THE RIGHT CAPITAL STRUCTURE

FIVE | SELECTING THE RIGHT CONTRACTOR

At first glance these may seem obvious—but deploying onsite energy becomes complex quickly and being confident and prepared for all aspects results in better economics in the long term. We frequently see companies stall out because of internal miscommunication, pass over economically viable projects, invest in sub-optimal projects, run into problems with contractors, and the list goes on and on. Yet, the opportunity for companies that are clear on how best to approach deploying onsite energy is massive: hundreds of millions of dollars (if not billions for some major enterprises) in energy cost savings and millions of tons in carbon emissions reductions. Not to mention increased sales, better brand opinion, competitive advantage, employee satisfaction, and more.

Read on to learn the basics about effective strategies during all aspects of a deployment program and how VECKTA’s platform is purpose-built to achieve the best results. We’ll discuss the importance of considering market and environmental factors such as historical outages, grid strain, and natural disasters to forecast future scenarios and make informed decisions. Additionally, we’ll debunk common misconceptions about deploying solar or batteries, shed light on the market dynamics for system contractors, and explain how to evaluate your portfolio to uncover trapped value and ensure no viable projects are overlooked.



Energy costs have steadily increased by 4% each year and have been treated as a standard expense line item. In some markets, annual cost increases are now in the double digits. Due to the cost of energy in most states, adding solar generation and/or battery storage will result in cost savings immediately. Energy thus becomes an asset.

“It took two years of research to determine our energy baseline and options across our 40 facilities. **VECKTA did it better in 1 week.**”

- Marianne, Energy Manager at USG Corporation

Deploying onsite energy systems across multiple sites is a complex task, with each location having unique challenges like varying utility rates, energy consumption, and environmental factors. These complexities often make it difficult for companies to scale successfully. However, by considering the entire portfolio, companies can identify the most economically viable projects and avoid investing in less optimal ones.

The largest locations aren't always the highest-return opportunities at the start of your portfolio review. Sometimes, a smaller site may offer better investment opportunities than larger facilities due to favorable conditions. We'll show you how.

VECKTA's platform automatically pulls in 5,000 data points to assess an entire portfolio of sites at once.

This guide acts as a playbook for deploying onsite energy at scale for enterprise customers using VECKTA as a solution to streamline, accelerate and optimize the process. This content is part of VECKTA's Pain Points series from our Renewable Rides podcast—listen to the related episodes here.

Five Aspects of Deploying Onsite Energy Across a Portfolio

ONE

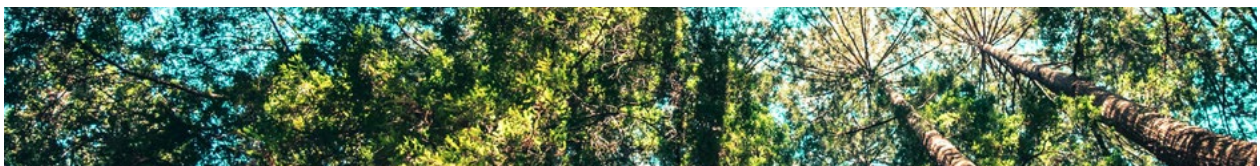
IDENTIFYING THE RIGHT SITES

The challenge here is to keep a bird's eye view of the portfolio while zooming in at the local level. Once you've determined what your company, regional and site-level priorities are, such as reducing costs, increasing operational reliability, and cutting emissions—understanding the determining variables as they exist now and how they are expected to change over time is critical. Data can then be evaluated against the specific, strategic goals of your business.

The Three Main Determining Variables:

Energy Costs

- In 2023, utilities across most of the U.S. significantly increased energy rates, with some rising by as much as 58%. Energy rates, including both energy and demand charges, represent a critical factor in the financial viability of energy projects.
- Rates vary across different locations, and their future trajectory can significantly impact the planning and budgeting processes for energy management. Businesses must closely monitor how these rates are expected to evolve, reflecting on how load growth—unevenly distributed across regions—will affect energy costs.
- **VECKTA Insight:** Energy costs are incredibly variable and are based on the utility and ratepayer profile. While rate changes are typically approved and published by public utility commissions, the actual impact the changes will have on individual customers isn't usually clearly communicated. It's critical to incorporate a realistic expectation for rate increases when modeling the return for an onsite energy system.





Incentives

- The ability to utilize government incentives like the Inflation Reduction Act, California's SGIP program, and REAP grants for rural projects can significantly enhance the financial viability of energy projects.
- For example, the Inflation Reduction Act provides up to 60% off the cost of the project: a base of 30% with the potential for a 10% Energy Community Adder, 10% domestic manufacturing requirement adder and location in a low-income community adder of 10%. The IRA aims to boost investment in renewable and sustainable energy resources by providing tax credits for businesses adopting technologies such as solar and wind.
- The challenge with incentive structures like these is their frequent changes across federal, state, county, city, and utility levels. Incentives can vary widely even within the same county, which affects projects on different levels such as low-income, rural, and those in wildfire zones.
- **VECKTA Insight:** Staying up-to-date, understanding eligibility criteria, and reviewing application processes for incentive programs can transform only slightly viable projects into financially attractive opportunities. Follow the steps in our [detailed white paper](#) on this topic to learn the ins and outs of the IRA incentives available for your energy project.

Outages

- Increasing the resiliency of your facility is essential to mitigating risk. To begin, assess the risk of power outages by evaluating historical and projected power outages in your area. This will help you plan proactive measures for maintaining energy reliability and infrastructure resilience.
- This is important as industries with processes sensitive to power interruptions, such as semiconductor manufacturing, may experience significant operational and financial setbacks from unplanned outages.
- **VECKTA Insight:** This is not a one-size-fits-all issue. There are varying cost considerations for different sectors, as some industries benefit from staying open during outages, such as retail centers and gas stations. That's why it's important to consider the costs associated with both sides of outages and plan accordingly.

TWO

CONFIGURING THE RIGHT SYSTEM

As businesses strive for sustainability and energy efficiency alongside rising costs, power outages, and emission reduction goals, how you determine the best on-site energy systems involves key decisions.

First, understand your energy objectives for incorporating onsite energy systems, such as reducing energy costs, enhancing resilience against outages, or improving emissions reduction and public image. Each objective will guide the choice of technology and its implementation.

Next, evaluate your current energy systems and infrastructure to identify potential upgrades. Plan for future growth and changes in energy demand to ensure the chosen technologies are scalable and adaptable.

Consider factors like space availability for installations (e.g., roof space, open land, parking lots) and specific site requirements (e.g., battery storage, natural gas connections) to determine the most suitable energy solutions.

Finally, review energy pricing structures, regional incentives, and grid interaction opportunities. Understand the economic impact of different technologies and leverage local incentives to enhance the financial viability of your energy projects.

VECKTA Insight: VECKTA's platform automatically proposes an ideal solar and/or storage system using the address as the only input. The model is further refined by adding utility load data and confirming square footage, but the platform-generated system is within 10% of firm market bids. Buyers can approach the market with confidence knowing they have an accurate estimate of the ideal system for a specific site in hand.



VECKTA's platform automatically proposes an ideal solar and battery storage system using the address and facility type as inputs. The model is further refined by adding utility load data and confirming square footage, but the platform-generated system estimate is within 10% of firm market bids.

THREE

ENGAGING THE RIGHT PEOPLE

Identifying and involving stakeholders from finance, operations, procurement, and legal early in the process ensures support and mitigates risks of push back. Your engagement of these groups aligns the project with organizational goals and allows for a more robust business case.

Up to 43% of costs in energy projects can come from soft costs, such as procurement and alignment delays. By involving stakeholders early and defining clear goals, you can minimize inefficiencies and avoid costly indecision, saving both time and money.

Consolidating data in a centralized platform allows for smooth communication and alignment with strategic objectives. Presenting a well-rounded business case that emphasizes both financial returns and environmental benefits increases the likelihood of project approval.

VECKTA Insight: Early and comprehensive stakeholder engagement, combined with centralized data management and clear communication, is key to driving energy project success. This approach reduces costs, streamlines decision-making, and ensures alignment with broader business and sustainability goals.





FOUR

CHOOSING THE RIGHT CAPITAL STRUCTURE

Power Purchase Agreements (PPAs) provide a fixed electricity rate over 20-25 years, offering stability against rising energy costs. Businesses benefit from no upfront costs, while the system's maintenance is managed by the asset owner, ensuring long-term savings and reduced operational burdens.

Energy system leases allow businesses to make fixed payments over a shorter term (7-10 years) with the potential for early buyout. While leases offer flexibility, they require businesses to take on operational responsibilities, including maintenance and system performance management.

Debt financing, including equity lines, commercial mortgages, and PACE financing, allows businesses to retain ownership and tax credits for energy systems. While PACE is useful for combining energy projects with building upgrades, it requires careful consideration of the special tax lien implications.

VECKTA Insight: When financing onsite energy systems, your project lead must make best efforts to work with experienced partners, conduct thorough due diligence, and understand the long-term financial and operational implications of each financing option to achieve cost control and maximize benefits.

FIVE

SELECTING THE RIGHT CONTRACTOR

Be sure you're not taking shortcuts. Engage a short list of highly qualified developers and contractors to drive the best outcomes, and develop a detailed Request for Proposal to compare bids accurately.

Clearly articulate your project's needs, specifications, and priorities upfront. This includes understanding whether your facility is a new build or a retrofit and communicating any assumptions or specific requirements like financial assumptions, load changes, and sustainability goals.

Establish and communicate the financial assumptions (e.g., tariffs, utility rate escalation, discount rates) and operational needs (e.g., load changes, critical backup requirements) that developers should use in their proposals to ensure consistent comparisons.

Not all system providers excel in the same areas. Identify those that match your specific project size, location, and financial needs. You want to engage the suppliers most capable and experienced in the type of system and contract model you require.

Shortlist and pre-qualify contractors that meet your needs, and check again to be sure your requirements are clear. Driving competition among the right firms will help you secure better terms, pricing, and a clear understanding of market expectations.

VECKTA Insight: There are numerous advantages of using a marketplace platform for managing multiple projects, especially in fragmented markets, as it can provide transparency, efficiency, and risk management benefits. Running your own competitive process is time-consuming, resource-intensive and has an inherent bias.



Companies using VECKTA's marketplace have saved 40% more in PPA costs and 25% more in energy savings.