

WINTER 2025

# REFLOW

A publication for electric utility  
digital program & workflow  
automation excellence

# MAGAZINE

FEATURED ARTICLE

## PowerClerk® The preferred choice



ALSO INSIDE

Case Study: Arizona  
Public Service (APS)

Solar for All: Best  
practices for designing  
effective solar programs



Clean Power Research®

# Reflow Magazine | Winter 2025 Issue



## 4 Looking back at 2024: Broader and deeper with utilities and their programs

Clean Power Research will remain focused on driving value to our utility and energy agency customers and partners.

### ◀ ON THE COVER

## 6 PowerClerk®: The preferred choice over SaaS giants for utility program management

PowerClerk offers key benefits over comprehensive platform-oriented cloud and hybrid approaches software including those from SaaS giants.



## 9 APS implements PowerClerk to enable efficient, flexible FERC generator interconnection management

Automation and consolidation empower the Arizona Public Service FERC Generator Interconnection team to scale and operate with confidence, knowledge and power.

## 10 Solar for All: Best practices for designing effective solar programs

Drawing on extensive experience in solar rebate programs, we've identified some best practices to assist "Solar for All" program implementers.

## 12 How utilities are effectively streamlining electrification and home performance rebate programs

Automating program tasks such as eligibility verification, rebate calculations and inspections eliminates process bottlenecks.

## 14 Remote Efficiency Auditing: Using Bulk Home Analysis to Enhance Weatherization Programs

Remotely assess home energy efficiency in bulk to identify the homes and building that could benefit from a deep retrofit.

## 15 Streamlining solar interconnection: How JEA leveraged PowerClerk® to resolve its backlog

PowerClerk speeds up project approval time for JEA's PV program.



## 18 WattPlan® expands coverage of solar rooftop data

WattPlan sites started using Google's Solar API to estimate the pitch, size, orientation and shading of the roof planes on the user's home.



## 21 Reducing interconnection backlogs amid growth in utility-scale electric generating capacity

PowerClerk helps balancing authorities better manage utility-scale interconnection timelines by streamlining complex workflows.

# Looking back at 2024: Broader and deeper with utilities and their programs



Jeff Ressler  
CEO

## Clean Power Research is honored to take a leading role in utility and energy agency digitalization initiatives

On behalf of the entire team at Clean Power Research, I wish our utility and energy agency customers a happy New Year and thank you for a great 2024!

In my [year-end review for 2023](#), I mentioned that we were excited to have reached two new milestones: 14 of the top 15 largest utilities and 80+ utilities and energy agencies across the United States were Clean Power Research customers. 2024 was also an excellent year for our business, with another record year in new customer additions (including utilities in Canada and Central America) and tremendous growth in new and innovative [PowerClerk®](#) programs by our existing customers.

One of the major events for 2024 in the U.S. was the election. There's been a lot of media discussion about the fate of the Inflation Reduction Act (IRA) based on the change of administrations at the Federal level. For those who have asked me my perspective, you know that I lean into a British slogan during their many moments of crisis during WW2, "Keep calm and carry on." In other words, we still have work to do, so let's focus on that. There is bipartisan support for many of the elements of the IRA, especially as they start to take root broadly around the country. The energy space was thriving before the enactment of the IRA and I have confidence that the industry will continue to grow and evolve. We'll have ups and downs as we did prior to the IRA.

I remain bullish about the future of solar energy (both utility-scale and distributed generation), EVs and I am encouraged by many new innovations I see in the market. Will there be changes to energy policy with a new administration? Yes. Could we see some dramatic shifts in federal policy? Perhaps. Will the energy transformation continue apace? I know from my conversations with other industry leaders and with executives at utilities that it will, most certainly.

In 2024, Clean Power Research's software solutions were integral to helping utilities across the U.S. digitalize their operational programs and processes. We've seen many of our customers expand their use of our solutions to new and innovative approaches across transmission interconnection (utility-scale / FERC), distributed generation (DG) interconnection, incentive management, transportation electrification and more. We love to see our customers thrive and we're thankful we focused our PowerClerk software development efforts around making a software platform that is agile, flexible and easily integrated into our customer's other enterprise software tools. Need evidence? [Read about why PowerClerk is the preferred choice over SaaS giants](#) for utility program management, written by Frank Dominguez, a co-founder of Salesforce and now a Software Architect at Clean Power Research.

How will the potential tumult and change within the industry impact Clean Power Research's focus in 2025? Clean Power Research will remain focused on driving value to our utility and energy agency customers and partners. Our cloud solutions will continue to help organizations:

- ✓ Gain control of their programs while taming backlogs and queues
- ✓ Empower their customers to make informed decisions about using products and offerings central to the energy transition, like EVs and time-of-use rates
- ✓ Harness the technical data necessary to model the impact of DERs on the grid for intelligent planning and program targeting

In 2025, Clean Power Research's customers and partners can expect us to continue to innovate and deliver software solutions to some of the utility industry's most vexing process challenges. A few key areas we are investing time and resources include:

- ✓ Evolving our 2024 AI/ML proof-of-concept experiments into PowerClerk product features to significantly enhance customer productivity and optimize their PowerClerk programs.
- ✓ Releasing a formal partnership program with tracks for "Consultants" and "Builders," including opportunities for collaborative marketing, co-selling, special training, tighter product integration and more.
- ✓ Empowering key application and program management stakeholders, such as developers, installers and consultants, to more easily manage applications and programs, and streamline and expedite processes like interconnections.
- ✓ Expanding the reach of our outstanding products—[PowerClerk](#) and [SolarAnywhere®](#)—to customers beyond the U.S. Specifically, expanding our PowerClerk product coverage to Europe. This will complement our SolarAnywhere offering, which is already sold globally.

As I said last year, our company vision since 1999 has been a "clean-powered planet." With the support and partnership of our utility and energy agency customers, we are making progress toward that vision.

Thank you again to all our customers for a great 2024! We look forward to supporting you in 2025.



# PowerClerk®

## The preferred choice over SaaS giants for utility program management



**Frank Dominguez**  
Software Architect

As a [Salesforce cofounder](#), I've been involved in engineering SaaS solutions for many years. I believe that traditional, comprehensive platform-oriented cloud and hybrid approaches, including those from SaaS giants, are often not the best option for utility and agency program management. From my experience in the energy space, [PowerClerk®](#) offers key benefits over those software solutions and is a compelling solution for utilities and energy agencies of all sizes.

PowerClerk has profoundly transformed energy program management, initially helping customers transition from paper-based approaches and other suboptimal systems to a highly efficient workflow automation solution. Today, PowerClerk is the industry's leading program management

software for distributed energy resources (DERs) and beyond. It has earned the trust of over 65 utilities and agencies in the U.S., Canada and Central America. PowerClerk has become the de facto standard solution for [interconnection automation](#) for distributed generation (DG) and large data center loads, all the way to utility-scale transmission programs.

PowerClerk handles a broad range of program types including DERs, [service requests](#), pole attachments and other utility workflows ranging from simple to complex. It has processed more than [two million interconnection projects](#), and [14 of the top 15 largest utilities in the U.S.](#) rely on one or more Clean Power Research® cloud solutions.

*“PowerClerk has become the de facto standard solution for interconnection automation for distributed generation (DG) and large data center loads.”*

### Key elements of high-performance utility program management solutions

In my time at Clean Power Research, I've seen customers who, frustrated with the limitations of solutions—and support—from the SaaS giants, switch to PowerClerk. They quickly appreciate that PowerClerk is not just a better fit for their needs, but a solution that significantly enhances their operations. Here are some key aspects that utilities should consider when evaluating a workflow automation solution.

1

#### Baked-in best practices based on real utility customer needs and experiences

Clean Power Research views PowerClerk customers as partners. Our partners' real-world experiences and processes enable us to continually enhance and innovate PowerClerk, which has transformed it into a trusted, best-in-class workflow SaaS solution. By incorporating valuable insights and feedback from our existing customers, new customers benefit from the ability to access advanced features and industry best practices tailored to their needs.

Industry-specific features include detailed equipment lists (i.e., CEC and EPRI equipment lists for PV, inverters, storage, EVs and EV chargers) and specialized form elements designed specifically for the industry, among others. These purpose-built components reduce or eliminate duplicative data entry and help ensure data accuracy. This provides immediate aid to programs and helps utilities leverage PowerClerk as a reliable system-of-record for subsequent data-intensive tasks, such as distribution planning.

Additionally, our customer success team has developed exemplary workflows and integrations for federal programs such as HER/HEAR; PNNL's home rebate API; Solar for All programs; and transmission interconnection workflows that align to the latest FERC interconnection rules. All of these enable accelerated deployments, as called out in three and four below.

2

#### Industry expertise from an outstanding team

The Clean Power Research team's domain expertise enables us to offer exceptional service to our customers. Our team is well-versed in utility, energy and rebate terminology and vernacular, with members who have gained valuable experience working within the sector. This deep understanding and support differentiates PowerClerk, enabling organizations using it to realize gains in efficiency and scale much more quickly than with competing solutions. The customer success team is accessible, responsive and engaged with our customers regardless of their size.

3

#### Ability to meet aggressive energy program launch timelines

Typically, the period from contract signing to PowerClerk program launch spans from a few weeks to a few months. PowerClerk recently replaced a prominent CRM provider at a major U.S. utility, due in part to PowerClerk's track record of speedy deployments. Over the course of six years, the utility had grown increasingly frustrated and disappointed with the CRM provider's inflexibility, pace and poor user experience.

With PowerClerk, that customer's program will go live in five months—a significant, yet unremarkable feat for PowerClerk, even considering the complexity and integrations involved. Another recent example is a Canadian utility customer that was able to launch its program in three months to meet an aggressive timeline.

*(continued on next page)*

4

#### Blazing-fast turnaround on updates to existing programs

For utilities and agencies, updating programs to meet regulatory changes can be critical. With PowerClerk's no-code platform, utilities can quickly update and revise live programs, typically without IT involvement. A new customer noted that a simple field alteration in their conventional CRM solution could take up to a year(!). In PowerClerk, a program manager at a utility or agency can execute that same modification in minutes.

Changes to larger CRM solutions often require IT or a third-party, which can incur additional costs and delays in implementation. However, PowerClerk's agility streamlines operations, reduces costs associated with changes, and establishes PowerClerk as an efficient and more cost-effective option while empowering program teams to deliver.

#### Author biography

As the Software Architect on the PowerClerk team at Clean Power Research, Frank Dominguez works on problem solving and strategic decision making that guides and shapes PowerClerk's future. Prior to joining Clean Power Research, Frank was a Salesforce cofounder where he developed skills and best practices unique to creating a highly successful Software as a Service (SaaS) company.

Frank's interest in clean energy was galvanized when his hometown of Napa, California, and surrounding areas began enduring summers of devastating wildfires. He is motivated by working with like-minded individuals who are driven to achieve a more sustainable future.

Frank holds a degree in Industrial Engineering from Stanford University and remembers when computer science was part of the Math department.

5

#### Ability to leverage existing utility investments

An increasing number of customers are replacing large SaaS providers with PowerClerk to manage and operate their workflows and processes. However, it's important to note that due to PowerClerk's advanced integration capabilities, customers can still leverage and capitalize on their existing technological investments. Often, PowerClerk becomes a system-of-record for the program data it handles.

PowerClerk seamlessly integrates and complements well-known platforms used by utilities such as ArcGIS, Salesforce, SAP, IBM® Maximo and Oracle, to name a few. Smaller utilities, especially co-ops and munis, sometimes deploy PowerClerk to automate programs with no immediate integration to other systems. However, they do this with the confidence that when the organization is ready from a labor or budget resource perspective, they can quickly adapt and integrate any PowerClerk programs with existing systems.

PowerClerk is a well-established solution in the energy program space, distinguished by a proven track record of driving the success of utility and agency programs. PowerClerk initially started by displacing paper-based systems, and it is a validation of our vision and efforts to see that it is now the preferred choice over SaaS giants for energy programs. Over time, more utilities and energy agencies have come to realize they can put their programs online more quickly, cost effectively and adaptably with PowerClerk, and rely on it to effectively address a wide range of current and future program challenges.

Learn more about PowerClerk by visiting [Cleanpower.com](https://cleanpower.com) or go to:

[PowerClerk Product Page](#)

[PowerClerk Case Studies](#)

[Contact us today](#)

# Case Study

## CUSTOMER BRIEF: ARIZONA PUBLIC SERVICE (APS)

### APS utilizes PowerClerk® to enable efficient, flexible FERC generator interconnection management

*Automation and consolidation empower the APS FERC Generator Interconnection team to scale and operate with confidence, knowledge and power*

#### Challenge

APS experienced a dramatic increase in Federal Energy Regulatory Commission (FERC) Large Generator Interconnection Applications, fueled by growing market interest in siting renewable projects in Arizona. This tested APS's interconnection processes, which relied on manually updating many disconnected tools and processing hand-written applications, all while juggling FERC deadlines, cluster studies, agreements and lengthy reporting processes. These inefficient processes led to costly administration and growing backlogs.

#### Partner Solution

The APS FERC Generator Interconnection team worked with Clean Power Research to iteratively build out a workflow in PowerClerk—the utility industry's leading program management software—to automate this manual work. Implementing PowerClerk reduced data entry errors by eliminating manual transcription and file processing, automating document creation, and streamlining record keeping and reporting. PowerClerk empowered APS to automate FERC deadlines and milestone management, saving a significant amount of manual effort and avoiding delays. APS is now able to quickly adjust to changes in OATT or FERC guidelines, without negatively impacting their processes. APS now has timely data in a single system of record to triage and guide applicants who get 'stuck' in the process.

## Results

Implementing PowerClerk increased APS's bandwidth to process FERC Generator Interconnection Applications by eliminating common errors, consolidating all application information to a single system of record and greatly reducing administrative labor. Applications used to take the team 5+ days to process; processing time has been reduced to 2-3 days. APS receives 80-120 applications per year, so the improvement in efficiency equates to hundreds of days of manual processing time saved per year. The team is now empowered to deliver a highly efficient and scalable process to handle the growing request for transmission-level interconnections.



APS is Arizona's largest and longest serving electric utility, providing power for nearly 1.2 million customers in 11 of the state's 15 counties. APS's mission is "Creating a sustainable energy future for Arizona."

*"I'm so proud of what we've accomplished. From where we started to where we are now—this really helps us with interconnection queues, which required a lot of human work, human sweat, and sometimes some tears. PowerClerk has been a game changer."*

Rebecca Crawford, Supervisor of Transmission Contracts and Services, APS

# Solar for All

## Best practices for designing effective solar programs



Lauren Gottschalk  
Business Development Manager



The [Solar for All initiative](#) has awarded \$7 billion in federal funding to states, cities, territories and tribes across the U.S. The funding is being used to design and implement solar programs that directly benefit communities, with a focus on low-income and disadvantaged groups.

Designing, implementing and reporting on these community-based programs presents significant challenges. Success requires collaboration and transparency. Fortunately, [Clean Power Research](#)® has been at the forefront of processing incentive and interconnection applications since 2006 through its workflow automation tool, [PowerClerk](#)®. Drawing on this extensive experience, we've identified some best practices to assist Solar for All program implementers.

### Engage stakeholders in program development

Each new program involves various stakeholders, including direct benefactors, contractors, community-based organizations, utilities and administrative staff. It's difficult to ensure that your programs meet everyone's needs without overcomplicating the process.

To ensure success, programs should be designed to have an accessible process that creates a seamless experience. By including community members in the design process, you can address the user journey from each stakeholder's perspective.

### Create a digital application portal for enhanced visibility

With many stakeholders involved, it's critical to establish a digital portal that provides visibility. This portal should have role-based access and handle application intake, review processes, construction tracking and project updates. Without such a tool, administrative staff may become overwhelmed with manually tracking projects and responding to status inquiries.

### Automate the process and inform stakeholders

Each process step should have a clear outline of which stakeholders need to take action and which need to be informed. Map out the workflow from beginning to end and incorporate automated communications, deadlines with reminders and easy access to submit data. This reduces confusion, increases efficiency and leads to higher satisfaction levels.

### Establish different tracks

Many Solar for All programs have divided their awards into sub-programs, distinguishing between **multi-family, community and residential solar**. Projects may vary in type, size and development stage.

Consider implementing a tiered approach in each program that allows you to review projects in a cluster and fast-track more developed ones. Add milestones

within larger process steps, such as construction or design, to effectively track progress and provide incentive payouts along the way.

### Screen for eligibility criteria

In Solar for All programs, a critical challenge will be ensuring the benefits reach the intended audience. It can be daunting to verify that recipients meet the stringent requirements, such as receiving a utility bill savings of 20% and are income qualified.

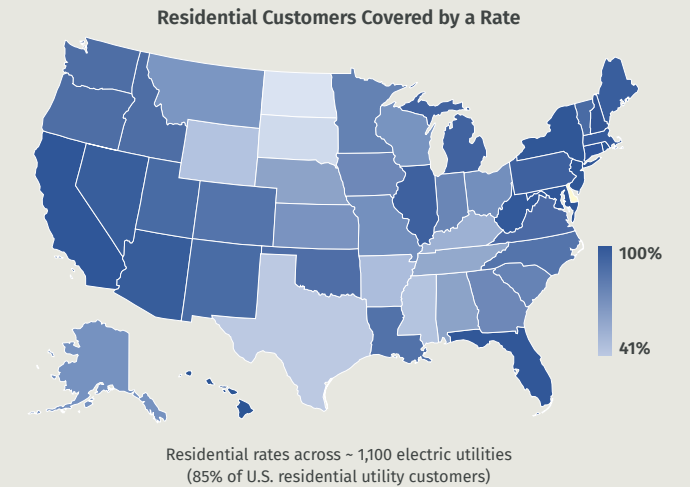
To address this, it's essential to front-load your program with clear eligibility measures. This ensures that only qualified projects move forward, minimizing wasted effort and resources.

Programs can leverage Clean Power Research's [PowerBill](#)® tool to ensure that benefactors achieve a minimum 20% savings on their utility bill. PowerBill can be integrated into the application and automatically screens the applicant.

### Incorporate data requirements

Solar for All programs have a myriad of reporting requirements and evaluation metrics. To avoid being overwhelmed by data collection and reporting tasks, establish a solid data infrastructure from the start. This proactive approach saves time, allows you to make informed decisions, and quickly assess compliance and metrics.

For example, California's \$1 billion Solar on Multifamily Affordable Housing ([SOMAH](#)) Program requires at least 51% of the installed system be allocated to benefit



Programs can leverage Clean Power Research's [PowerBill](#)® tool to ensure that benefactors achieve a minimum 20% savings on their utility bill.

tenants. This requirement directly relates to the utility interconnection process. Through intentional design, the SOMAH application has safeguards to ensure the minimum allocation threshold is met.

The SOMAH administration team is composed entirely of nonprofits, including the Center for Sustainable Energy® ([CSE](#)). CSE is a national nonprofit that accelerates effective and equitable adoption of clean transportation and distributed energy through program design and administration. CSE offers comprehensive program administration services to Solar for All awardees including design, implementation, reporting, evaluation and engagement.



Clean Power Research



Center for Sustainable Energy®

### How Clean Power Research can help

As awardees finalize plans to ensure well-conceived, well-executed programs, Clean Power Research and the Center for Sustainable Energy offer guidance based on nearly 50 years of combined experience designing, administering and creating programs and software for large-scale solar and energy storage initiatives nationwide. [Contact us today.](#)

# How utilities are effectively streamlining electrification and home performance rebate programs



**Evan Gray**  
Project Manager, PowerClerk



As the demand for clean energy intensifies, utilities and energy agencies face increasing pressure to meet ambitious sustainability targets while maintaining operational efficiency. Electrification and home performance rebate programs have become essential tools for reducing carbon emissions, lowering energy costs and supporting the transition to a cleaner energy system. Residential buildings account for 21% of total energy use and 15% of U.S. greenhouse gas emissions. This means successful programs are crucial for reaching targets—and lowering energy bills by up to 20%—within a decade.

To achieve these goals, utilities and energy agencies must prepare for the intake of hundreds of thousands of applications per year. While there are many process automation software tools available, utility programs have unique needs that not all solutions address. Below are key considerations for utilities that need to scale electrification and home performance rebate programs effectively.

## Automation of complex, high-volume processes

As programs grow, manual processes such as paper applications and spreadsheets become bottlenecks. Systems that handle a few hundred applications can quickly become overwhelmed when scaled to thousands, resulting in inefficiencies and errors that hinder progress.

Automating tasks such as eligibility verification, rebate calculations and inspections reduces manual entry, eliminates bottlenecks and ensures fast, accurate processing—critical for maintaining program efficiency.

## Flexible workflow configuration

Many program managers recognize that spreadsheets won't suffice as demand grows, so they look for software solutions that can help. However, many software solutions lack the flexibility to adapt to evolving program requirements within one secure environment. Rigid systems that rely on IT for hard-coded changes slow down the process and make optimizing program workflows based on contractor feedback harder.

A no-code software solution allows managers to adjust workflows without relying on IT, providing the flexibility to adapt as programs evolve. This adaptability is crucial for ensuring compliance, efficiency and stakeholder satisfaction as programs scale.

## Efficient communication and project coordination

As electrification and home performance rebate programs scale, clear communication between administrators, contractors and other stakeholders becomes increasingly critical. In smaller programs, program managers may get by with manual emails and phone calls, but at scale, this can lead to delays and inaccuracies. Accurate communication about eligibility standards and rebate disbursements is crucial to both the utility and the contractor.

An integrated communication and workflow management software solution can ensure that all stakeholders remain aligned and receive timely updates, which prevents delays and ensures seamless project completion.

## Seamless integration with existing systems

Managing large-scale electrification rebate programs requires a platform that integrates smoothly with existing utility systems, such as customer information systems (CIS) and billing platforms. Without seamless integration, data silos develop, creating inefficiencies and errors that can frustrate staff and contractors alike.

The ideal software solution should be able to reconcile data across multiple systems, enabling smooth data flow and minimizing manual entry. By connecting critical systems like Oracle, Salesforce or other legacy platforms, utilities can ensure that rebates are processed accurately and that program updates are communicated effectively to customers and contractors.

## Robust reporting

As application volumes increase, so does the need for robust reporting capabilities. Program managers must generate detailed reports to track performance, meet internal targets and satisfy external stakeholder requirements. Manual reporting or limited tools can slow decision-making, leading to inaccuracies and eroding stakeholder trust.

The right software solution will deliver flexible reporting capabilities that enable program managers to generate

reports in near real-time, enabling them to make data-driven decisions and optimize program outcomes while keeping utility executives and state agencies informed of program progress.

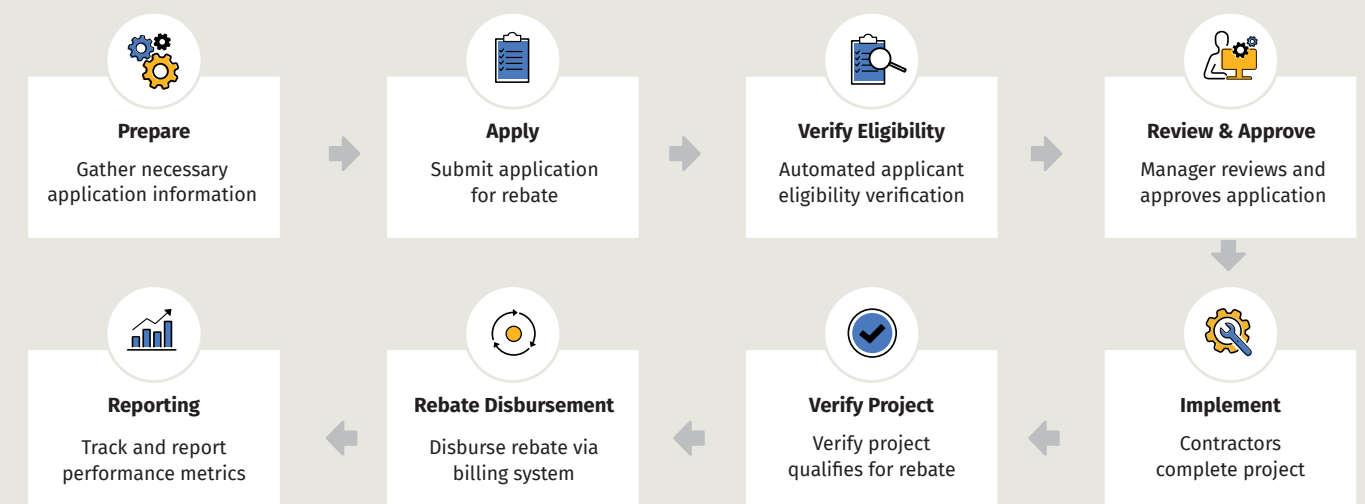
## Finding the right software solution

Scaling rebate programs effectively requires the right software solution. Ideally, that solution will automate manual processes, offer flexible workflows, integrate seamlessly with existing systems and provide scalable reporting—all of which are essential for managing programs accurately and efficiently.

Efficiency First California, for example, successfully implemented Clean Power Research's PowerClerk® to automate tasks including application intake, customer enrollment and rebate approval. With PowerClerk, they were able to optimize workflows in real time based on contractor feedback for SMUD's Home Performance Program. Their implementation of PowerClerk took 4 months and reduced rebate approval times from 12 to 2.5 days, demonstrating how the right software can significantly improve program efficiency and outcomes.

Interested in similar results? [Contact Clean Power Research](#) to schedule a live PowerClerk demonstration.

## Common Building Efficiency and Electrification Program Stages



# Remote Efficiency Auditing

## Using Bulk Home Analysis to Enhance Weatherization Programs



**Brittany Farrell**  
Senior Researcher

As the U.S. moves increasingly towards higher efficiency and electrification, individual home and building owners have a crucial role to play: to invest in upgrading their properties towards meeting local, state, and national efficiency and carbon reduction goals. But which homes need upgrades, and where do they start?

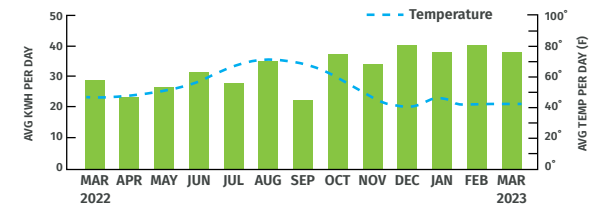
Utilities providing natural gas and electricity help homes and businesses answer these exact questions by offering energy audits. During an audit, an energy auditor or

contractor goes into the building and catalogs the exterior surfaces and major systems (heating, cooling, etc.). They may also perform tests, such as a blower door test, to assess the infiltration or airflow through the building. Depending on the size of the building and complexity of the audit, it may take up to several hours to complete the home visit and generate a report of suggested improvements.

While these audits are comprehensive, there are a couple of significant issues with them. First, the building owner or manager typically needs to opt in after discovering the offering, usually on the utility website. This self-selection can leave many of the homes and buildings with the greatest need unassessed. Second, the auditing process itself is time- and labor-intensive. The 2020 Residential Energy Consumption Survey performed by the U.S. Energy Information Administration reported 123.5 million housing units in the United States, including 77.1 million single-family homes. How do we audit all of them?

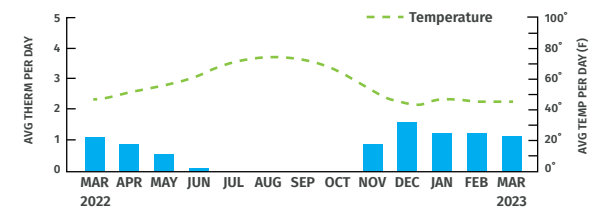
Unfortunately, the answer is that we cannot - and certainly not in a reasonable time frame with the already constrained workforce and utility budgets. While most homes and buildings could benefit from relatively lightweight efficiency enhancing measures (e.g. lighting, smart thermostats, basic weather sealing), it is crucial to narrow down the total number of homes and buildings that could benefit from deep retrofits (e.g. insulation, weatherization) and prioritize those with the greatest potential for efficiency gains. One way to achieve this is to remotely assess efficiency in bulk.

### Electric

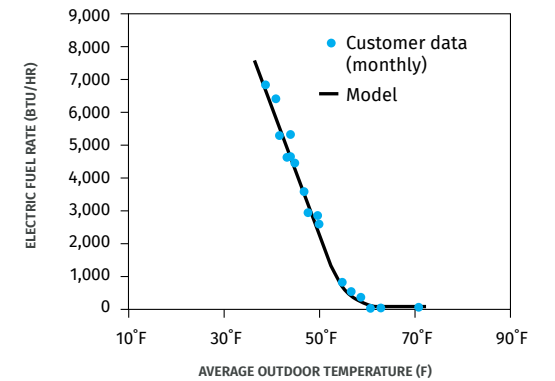
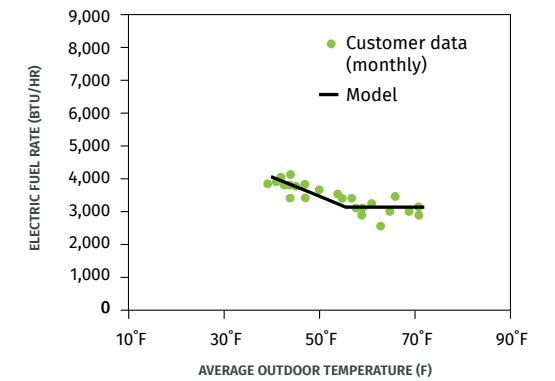


|                              | Last Year | This Year |
|------------------------------|-----------|-----------|
| Average daily kilowatt hours | 28.67     | 37.66     |
| Average daily cost           | \$3.60    | \$5.27    |
| Days in billing cycle        | 33        | 32        |
| Average temperature          | 44°F      | 42°F      |

### Natural Gas



|                       | Last Year | This Year |
|-----------------------|-----------|-----------|
| Average daily therms  | 1.12      | 0.98      |
| Average daily cost    | \$1.56    | \$1.66    |
| Days in billing cycle | 33        | 32        |
| Average temperature   | 44°F      | 42°F      |



**Figure 1:** (left) Energy usage data from a customer bill and (right) fuel rate for electric (top) and natural gas (bottom) shown as a function of average outdoor temperature, along with energy modeling results (black lines).

### Bulk Remote Assessment

Energy utilities offering efficiency programs have a largely underutilized dataset: customer usage data. Nearly all customers are metered for energy use and billed at the end of a specified period. This data may be available for each billing period or be metered on an hourly or sub-hourly basis. In either form, this data can be incredibly useful to model a customer's energy use and assess their building's shell efficiency before investing in the time and effort of performing an in-home audit.

As an example, Figure 1 shows the energy data from a customer bill and the resulting remote audit models for a single customer with electric and natural gas service in the Pacific Northwest. We extract the energy usage information from the customer bill (left), convert it to units of BTU/hr, and plot it against the average outdoor temperature (right). Then, we create models of the energy usage as a function of the outdoor temperature for each fuel type (black lines).

The energy models, when combined with some basic home data (e.g., assumed heating or cooling efficiency, conditioned square footage, number of floors), can be used to estimate many attributes of each home or building including:

- ✓ Amount and type of energy used for heating and cooling
- ✓ Energy used for non-heating and cooling purposes
- ✓ An overall home thermal efficiency metric
- ✓ The heating or cooling load at any design temperature
- ✓ The home's balance point temperatures (the average outdoor temperature at which the home begins to utilize energy for heating or cooling)
- ✓ Changes to fuel usage when major systems are replaced (e.g., natural gas savings and increase in electric usage when heating is electrified)

(continued on next page)



These models use data that is already collected and stored by energy utility companies, so the models can be run in bulk over entire service territories without ever stepping foot inside the buildings. Models can also easily be updated over time using refreshed customer data to track and assess individual and territory-wide changes in energy usage behavior and improvements in efficiency.

### New York Pilot Program Data Utilization

The results generated by the remote auditing process can be used by utilities and program implementers to inform weatherization and efficiency programs. Over the last few years, Clean Power Research has been working on a pilot project with Avangrid's upstate New York service territories, New York State Electric and Gas (NYSEG) and Rochester Gas and Electric (RGE). This pilot assessed and provided results to Avangrid for over 230,000 single-family homes over the two service territories.

The data from this pilot program has been used in several ways during the pilot, including:

- **Program Assessment:** Homes participating in previous retrofit and rebate programs were analyzed for energy savings.
- **Program Planning:** Estimates of homes with efficiency needs have been used to inform the design of new weatherization programs and allocate funding.
- **Program Marketing:** A list of homes with the greatest thermal efficiency needs was generated to prioritize future program outreach.



### Conclusion

Analytics-based approaches that leverage historical usage data of customers hold great promise to scale efforts that support electrification and deep energy retrofits through data-supported identification and prioritization of buildings that would benefit the most from energy efficiency investments. This technology is not meant to be a replacement for in-home energy auditing for determining specific efficiency measures; instead, it can be used as a tool to plan, market, and assess programs and to optimize the effectiveness of utility and public investments towards the broader efficiency and carbon reduction goals.

# Case Study

## CUSTOMER BRIEF: JEA®

# Streamlining solar interconnection: How JEA leveraged PowerClerk® to resolve its backlog

*PowerClerk speeds up project approval time for JEA's PV program*

### Challenge

JEA's energy programs team faced the challenge of manually processing an increasing number of solar interconnection applications. The slow and tedious process resulted in overflowing inboxes, incomplete applications and manual data entry errors. This led to a **9-week backlog of solar interconnection projects**, customer frustration, strained solar installer relationships and time-consuming project status inquiries. To alleviate these challenges and enhance operational efficiency, JEA sought an automated and streamlined solar interconnection solution.

### Solution

JEA selected PowerClerk, the utility industry's leading program management software for DERs and beyond. PowerClerk's robust features quickly addressed JEA's solar interconnection backlog by ensuring complete and correct applications, and moving communications with customers and installers from chaotic inboxes to trackable actions tied to projects. Stakeholder communications were streamlined through automated notices, such as deadline alerts. Real-time project status tracking elevated transparency for installers and customers. PowerClerk's Single Sign-on (SSO) authentication exceeded secure login requirements, and the use of PowerClerk's eSignature feature enabled JEA to further speed up interconnection approval times while reducing administrative efforts.



Created by the City of Jacksonville in Florida, JEA has been a community-owned utility since 1895. JEA proudly serves approximately 520,000 electric, 395,000 water, 315,000 sewer, and 27,000 reuse water customers. Their mission is to provide reliable services at the best value to their customers while ensuring their areas' precious natural resources are protected.

*"JEA recognized the strength of the PowerClerk platform to address our needs today and into the future. Using PowerClerk, we reduced solar interconnection approval times from weeks to days. Following this success, we launched two additional commercial programs using PowerClerk for new service requests and fleet electrification."*

Dan Copeland  
Program Manager, Customer Programs  
Distributed Resources

## Results

Using PowerClerk, the JEA team developed and launched a new, online solar interconnection application process **in less than 3 months**, with the following results:

- Resolved a 9-week project backlog within **just 2 weeks**
- Slashed application approval timelines by 70% (from weeks to days)
- Improved customer satisfaction and installer relationships

These successes led to JEA expanding its use of PowerClerk. Most recently, **JEA leveraged PowerClerk's flexibility to launch Commercial Electric Services** which includes fleet electrification and new-service delivery.

### About the Author

*Brittany Farrell is a Senior Researcher at Clean Power Research (CPR). In her current role, Brittany specializes in utilizing utility, public, and weather data sets to develop actionable insights for energy utilities and their customers. In previous roles with Clean Power Research, she developed and managed datasets for CPR's WattPlan® and PowerClerk® product families with expertise in utility rates, DER incentives, battery storage, electric vehicles, and electric vehicle charging equipment. Brittany holds a Ph.D. in Chemical Engineering from the University of Michigan.*

# WattPlan expands coverage of solar rooftop data



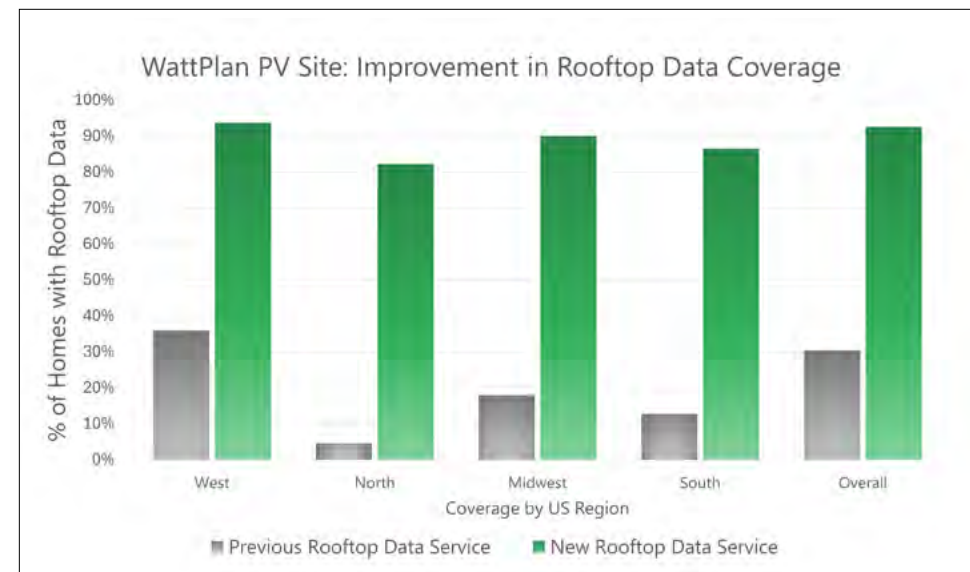
**Max Reichlin**  
Lead Product Manager

*With more than 90% of homes covered across the country, it doesn't matter if the user lives in a rural county or the heart of a major city, they will now receive the same high-quality estimates.*

Clean Power Research® is excited to announce an enhancement to WattPlan®, our personalized rate and DER customer education and engagement software for utilities and energy agencies. As of July 1st, all rooftop solar estimations on WattPlan sites started using [Google's Solar API](#) to estimate the pitch, size, orientation and shading of the roof planes on the user's home. WattPlan uses this data to make detailed estimates of the potential solar generation, bill impacts and lifetime savings for our users.

This update makes WattPlan more equitable, accurate and personalized than ever before. Now, utility customers across the United States and Canada can benefit from this additional precision and personalization. With more than 90% of homes covered across the country, it doesn't matter if the user lives in a rural county or the heart of a major city, they will now receive the same high-quality estimates.

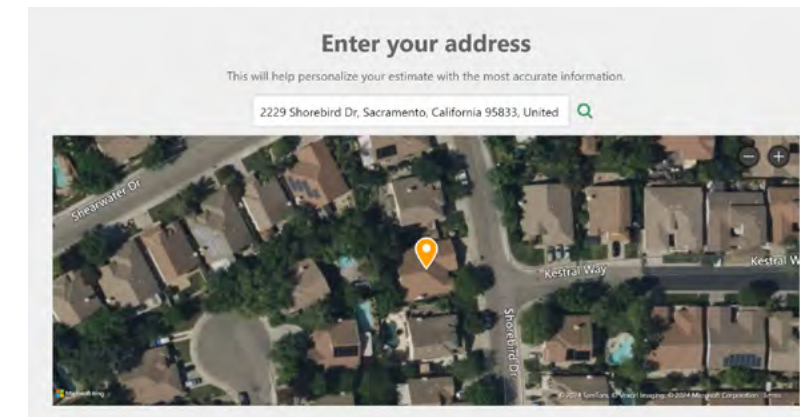
The chart below reflects the measured improvement for our users in the availability of rooftop data across the geographic regions of the United States and for the country overall.



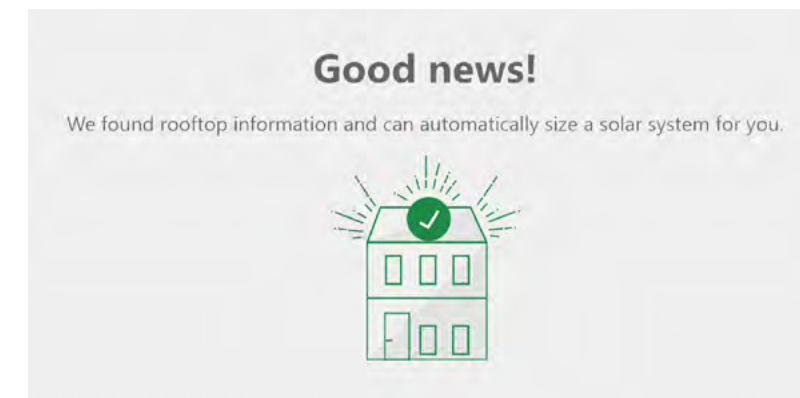
## How does WattPlan use rooftop data?

WattPlan helps utility customers understand the costs and benefits of installing rooftop solar on their homes. WattPlan is purchased by utilities and energy agencies who want their customers to have a free and objective way to evaluate the solar potential of their homes and understand how their bills will change after installing rooftop solar.

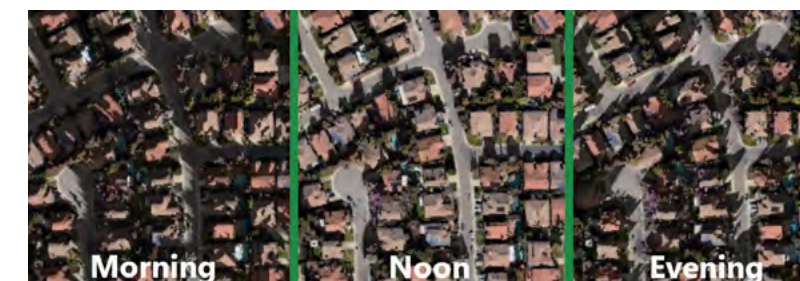
To simulate a new solar array and the associated costs and savings, WattPlan brings together local solar irradiance data, utility electric rates and programs, and detailed rooftop data, now from Google's Solar API.



*When users enter their address, WattPlan connects with our own [SolarAnywhere®](#) for localized irradiance data to determine how much sun the home will receive throughout the year.*

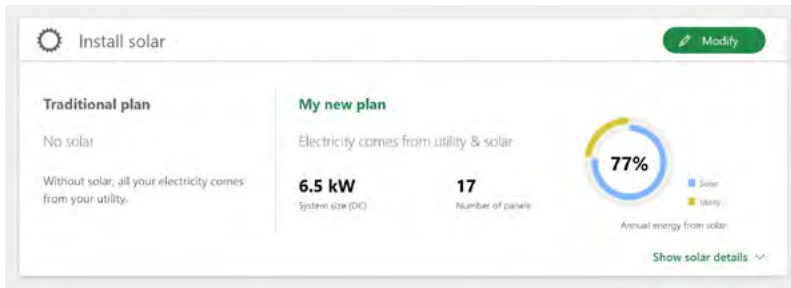


*Then WattPlan collects rooftop data for that address. This data includes the number of planes on the roof, their size, pitch and orientation. These values are crucial to determining the best locations for new solar panels.*



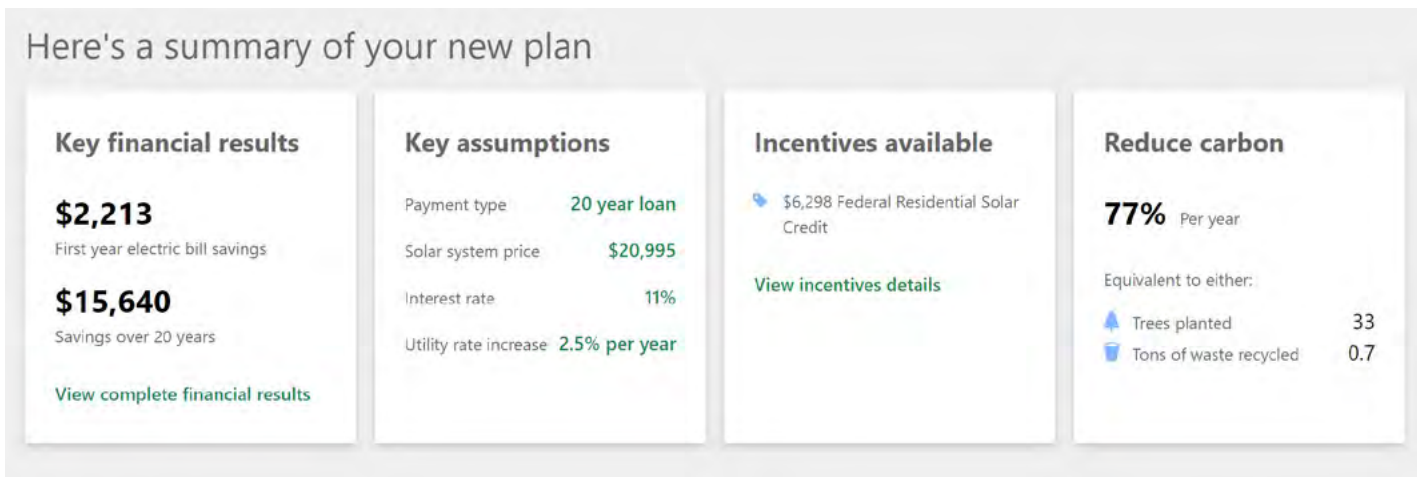
*Next, WattPlan collects hourly shading data, which reflects how nearby objects like trees and other buildings impact how much light reaches each plane of the roof throughout the year. This is crucial to accurately simulating the potential for each home.*

*(continued on next page)*



Applying these datasets, WattPlan simulates a set of solar arrays which will offset the user's energy consumption from the grid. The production of the solar arrays is netted against the user's electrical consumption.

The resulting utility bills are estimated using Clean Power Research's in-house rate engine, [PowerBill®](#). Users can see how much the system might cost, how much they might save and how their emissions would change. They can adjust the estimate to emulate solar quotes and consider alternate rate plan and pricing scenarios.



# Reducing interconnection backlogs amid growth in utility-scale electric generating capacity



**Shelly Whitworth**  
Product Marketing Manager

The U.S. saw utility-scale electric generating capacity increase by 21% during the first half of 2024 compared to the same period in 2023. Most of the new capacity came from utility-scale solar, wind and battery storage. According to the [U.S. Energy Information Administration \(EIA\)](#), the new capacity totals 3.6 gigawatts (GW), which is crucial for meeting rising energy demands and supporting the energy transformation.

## Addressing utility-scale interconnection backlogs

Due in part to increased electric power generating capacity (Figure 1), [significant utility-scale interconnection backlogs](#) have grown, and the complex nature of these projects further compounds delays. Balancing authorities without an online portal and a connected workflow automation software solution often face significant interconnection challenges and delays. Manual tracking of projects, communications, submitted data, studies and deadlines in spreadsheets and email is inefficient and resource-intensive for program managers.

## Growth is continuing! Solar capacity expected to double (H2'24)

The EIA article predicts significant growth to continue in the second half of 2024:

*“Developers plan to add 42.6 GW of new capacity in the United States in the second half of 2024.*

*Nearly 60% of that planned capacity is from solar (25 GW), followed by battery storage (10.8 GW) and wind (4.6 GW).*

*If utilities add all the solar capacity they are currently planning, solar capacity additions will total 37 GW in 2024, a record in any one year and almost double last year's 18.8 GW.”*

This level of growth is driving more balancing authorities, particularly vertically integrated utilities serving areas outside of ISO/RTO territories, to seek solutions to streamline the interconnection process, ensuring that new projects can move through the rigorous administrative procedures and technical review steps efficiently and effectively.

*(continued on next page)*

**WattPlan is available nationwide for our customer utilities, cooperatives, municipalities and energy agencies.**

If you are a program or product manager at a utility or energy agency and you are looking for ways to educate your customers, protect them from deceptive installers or promote your solar programs, be sure to [contact us](#).

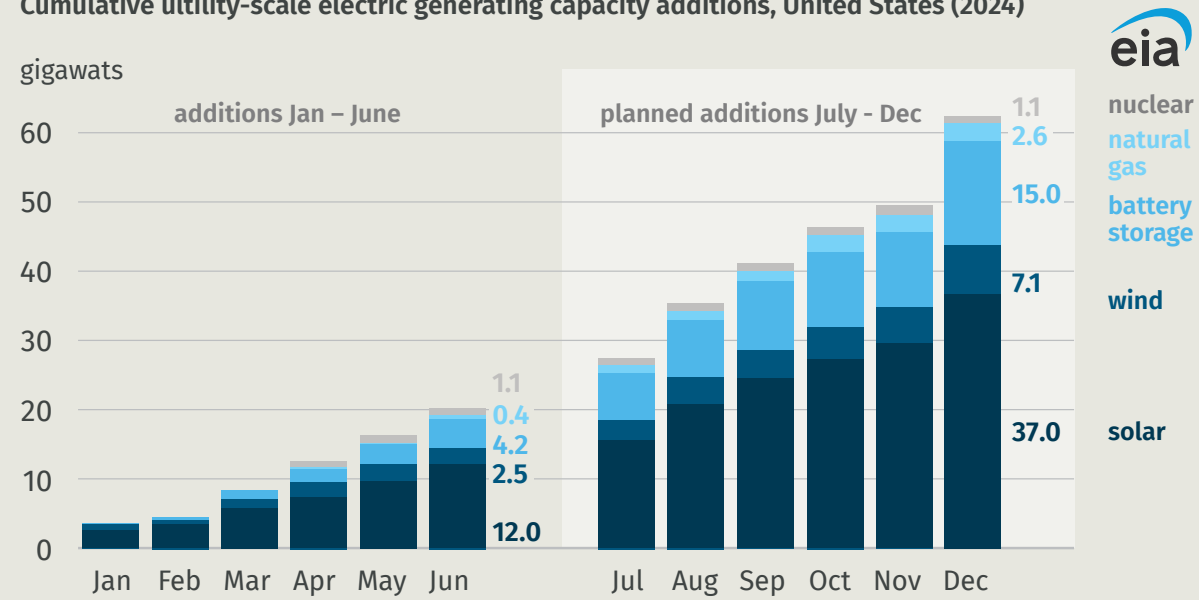
Learn more about WattPlan by visiting:

[WattPlan Product Page](#)

[WattPlan Case Studies](#)

## U.S. power grid added 20.2 GW of generating capacity in the first half of 2024

Cumulative utility-scale electric generating capacity additions, United States (2024)



Data source: U.S. Energy Information Administration, Preliminary Monthly Electric Generator Inventory, June 2024

Figure 1: Increased electric power generating capacity in 2024

### Reducing delays and backlogs

Clean Power Research is proud to support the growth of utility-scale electric generating capacity with solutions that modernize interconnection processes. **PowerClerk®**, the utility industry's leading workflow automation for interconnection, service requests, energy programs and more, helps balancing authorities better manage utility-scale interconnection timelines by streamlining complex workflows.

PowerClerk users take control of their interconnection processes by standardizing processes and improving overall efficiency, reducing project delays and backlogs. PowerClerk is purpose-built to address unique challenges the utility industry faces, allowing balancing authorities to focus on high-value tasks such as system impact studies and ensuring that new energy projects can be integrated into the grid smoothly and effectively. This not only supports the growth of renewable energy, but also enhances the resilience and reliability of the power grid.

### Driving utility-scale generating capacity

The advancements in utility-scale electric generating capacity are a positive step towards a more sustainable energy future. It's clear that utility-scale generation interconnection will continue to grow to meet ever-increasing demand. Clean Power Research is here to help balancing authorities scale, standardize and streamline interconnection programs.

For more information about our interconnection management solutions, visit our [Interconnection solutions page](#).

## About Clean Power Research

Clean Power Research offers utilities and energy agencies efficient, adaptable and trusted cloud software to automate and scale critical business processes.



Workflow automation and management



Customer education and enablement



PV production forecasting data

### SOLUTIONS



**FERC & Distributed Generation Interconnection Management**  
Automate, streamline, and scale your distributed generation and FERC interconnection processes. [Learn more](#)



**Service Requests**  
Simplify and accelerate service request programs and processes; align internal and external stakeholders. [Learn more](#)



**Transportation Electrification**  
Accelerate progress towards decarbonization targets by enabling the electrification of vehicles and fleets. [Learn more](#)



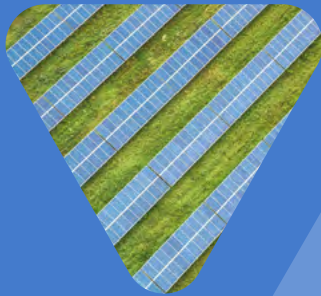
**Building Electrification**  
Empower businesses and consumers to electrify their buildings and reduce non-renewable energy dependence. [Learn more](#)



**Renewable Energy**  
Oversee renewable energy programs across customer education, enrollment & program management. [Learn more](#)



**Joint Use Attachments**  
Streamline utility joint use attachment processes; automate stakeholder communications, administration and records-keeping. [Learn more](#)



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