# PowerClerk® Analytics

Unlock the value of your DER data

"SMUD needed to improve our customer DER adoption modeling to better integrate the resources into our existing planning processes. **PowerClerk Analytics allowed our DER strategy team to analyze multiple adoption scenarios and how they may impact our system load and the grid.**"

Obadiah Bartholomy, Manager, Distributed Energy Strategy, Sacramento Municipal Utility District (SMUD)

"**Clean Power Research's PowerClerk Analytics helps fill DER information gaps** in combination with LoadSEER™, providing **actionable insights** into how electrification and DERs will drive future capacity and investment needs."

Gerhard Walker, Manager, Advanced Forecasting and Modeling, Eversource and Sophia Zhang, Sr. Data Scientist, Advanced Forecasting and Modeling, Eversource
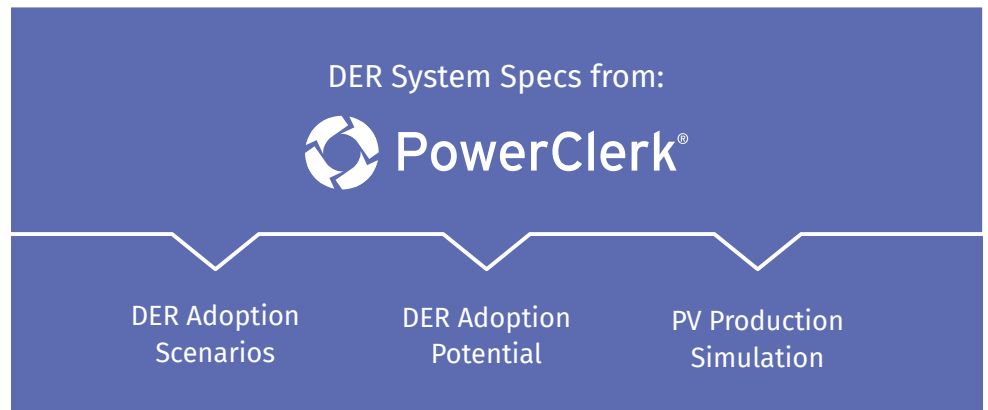
## PowerClerk Analytics expands operating and planning visibility of PV and other Distributed Energy Resources to the grid edge

### Leverage DER data for operations, planning, and analysis

The growth of DERs is causing challenges for grid operators and planners impacted by DER power production, consumption and future adoption. PowerClerk Analytics generates descriptive and predictive models with DER data to enhance engineering and planning tools. Results cut across utility silos—from DER program management to system operations and planning, load forecasting, and integrated resource planning—with transparent model outputs.

PowerClerk Analytics cloud-based software and services bring visibility to interconnected and queued DERs, improving utility decision-making and ensuring efficient system integration.

### DER Insights Across the Utility

DER System Specs from:

**PowerClerk®**

| DER Adoption Scenarios | DER Adoption Potential | PV Production Simulation |

**Distribution & Resource Planning**

- ✔ Generate DER adoption scenarios to study a wide range of potential impacts at the feeder, substation and utility-wide level
- ✔ Evaluate territory-wide baseline and potential for building electrification, building shell efficiency and rooftop PV
- ✔ Disaggregate behind-the-meter PV production from net load to establish true gross load growth

**System Operations**

- ✔ Improve operational decision-making with short-term PV production forecasts
- ✔ Check performance of existing PV systems against modeled production data to spot issues early
- ✔ Ensure data consistency between systems with reliable web adapters and APIs

## PowerClerk Analytics includes the following modules and software-supported studies to meet each utility's unique needs

### DER Adoption Scenarios

Evaluate the impacts of PV + storage, EV and electric heating adoption scenarios. Use historical trends from PowerClerk and utility-specific factors such as rates and incentives, solar generation potential, and technology costs. Allocate adoption scenarios at levels ranging from the feeder circuit to customer class.



Compare user-driven DER adoption scenarios

### PV Fleet Simulations and Irradiance Data

Enhance visibility with hourly or sub-hourly time-series PV production for the as-built PV fleet, queued fleet or future PV adoption scenarios. Sets typical-year and historical simulations to disaggregate gross load from net load for improved load forecasting. Use real-time irradiance data and PV simulations to support utility operations and DERMS.
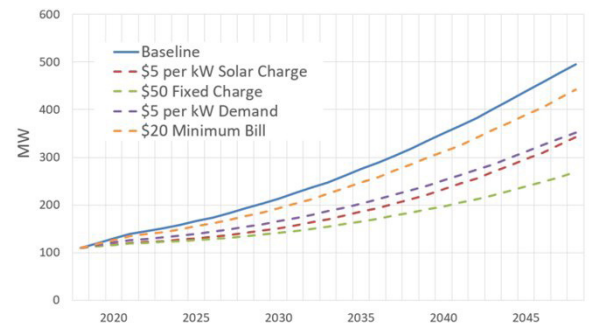
### Virtual Energy Audit

Determine building shell efficiency and potential for fuel switching to electric heating and cooling for buildings in the utility territory. Use results to inform rates and incentives policy, design energy programs, perform targeted customer outreach and gain insights on future trends.



Simulate feeder-level PV production
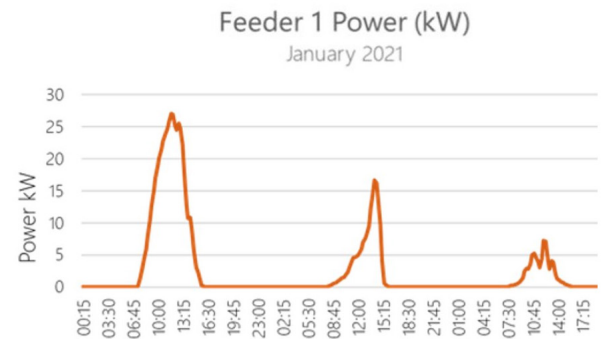
### PV Potential Study

Study the territory-wide potential for rooftop PV adoption based on 3D models of roof surfaces. Use to set limits on long-term PV adoption in resource and system planning, and to study non-wires alternatives to infrastructure upgrades.
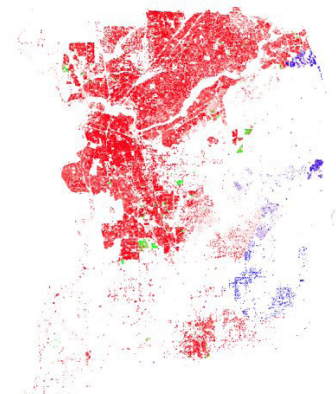
### PV Specification Inference

In cases where PV specifications are incomplete or inaccurate, infer those specifications using net-load data along with our models and irradiance data. Downstream, these improved PV specifications can be updated to the DER system of record and used to generate more accurate PV simulations.



Study building efficiency, electric heating potential and/or PV potential

## Cut across utility silos with flexible options to connect DER data with utility tools and processes

✓ **Distribution System Analysis Tools**
Integrate with tools such as CYME, Synergi, LoadSEER or EPRI Drive

✓ **Scheduled Delivery**
Data delivered daily, weekly or monthly without IT involvement

✓ **Streamline Data Input**
Transfer data files via SFTP to a known location for secure or convenient access, or tighten and customize integration by calling well-documented REST APIs.

v011723

**To learn more about Clean Power Research's software services, please visit www.cleanpower.com**