



Frequently Asked Questions about Customer Data Access

On July 8, 2025, NARUC hosted a webinar on customer data access basics and use cases. Expert speakers were: Nikhil Balakumar, Founder and CEO at Eclipse; Colleen Morris, CEO of Calico Energy; and Kelly Crandall, Vice President of Regulatory Policy at Utility API. The full [presentation](#) and [recording](#) are available. This synopsis presents key points from the webinar in FAQ format.

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Why is streamlined customer data access a priority for utilities / utility commissions?

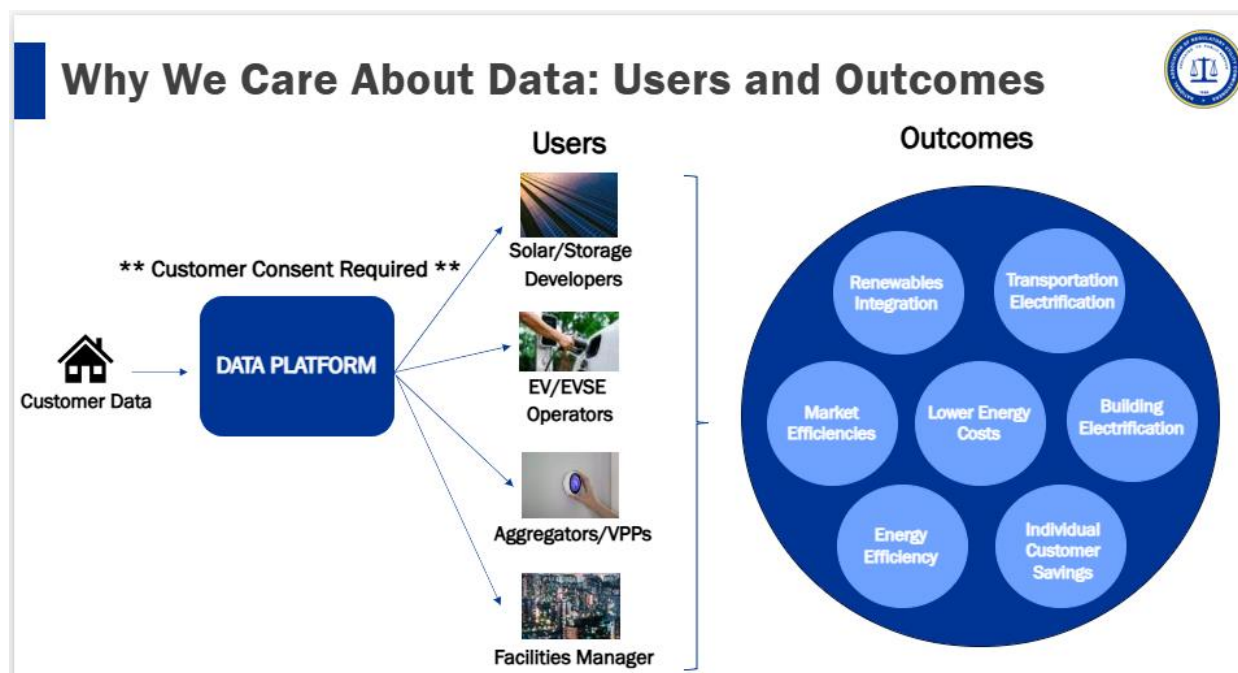
Potential direct benefits to customers: Throughout the country, customers are often seeking to lower their energy bills, integrate new smart home/energy control devices, and upgrade their buildings. When customers want to control their energy use, they typically need assistance from experts because utility bills are complicated to read and understand, energy use in a building is rarely straightforward, and technology options for meeting energy needs are numerous and highly technical. DER developers, energy efficiency program implementers, commercial energy management companies and others are available to assist customers, but they cannot be effective or provide useful recommendations on potential solutions without understanding an individual customer’s baseline energy use. The faster a customer and its authorized advisors can access relevant data, the sooner the customer can resolve their energy concerns.

Potential benefits to utilities / to the grid: The electricity grid is no longer comprised of a centralized system with one-way flow of electrons to a single meter per building that draws a predictable amount of power. Changes in the profile of central generation sources, widespread availability of distributed generation, and increasing deployment of customer-side load modifiers (e.g., electric vehicles) have led to changes in utility operations and grid needs. The

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opportunity to leverage customer resources by supporting deployment of individual DERs (including storage, energy efficiency, demand response) or aggregations of DERs to provide grid flexibility that reduces or shifts peak power times (including thermostats, vehicle batteries) could offer lower cost options than purely relying on utility investments for operating the grid. Data access is essential for supporting strategic DER development that benefits the grid rather than imposing additional costs.

State legislative requirements: In some states, recent legislation has directly precipitated customer energy data sharing; in other states, aggregated DER or virtual power plant (VPP) requirements are likely to necessitate customer data sharing as a pathway to successful rollout. In November 2024, **Massachusetts** passed legislation requiring utilities to create a statewide customer data platform (An Act Promoting a Clean Energy Grid, Advancing Equity and Protecting Ratepayers, 2024). In 2024 and 2025, **Colorado** (S.B. 24-218, 2024), **Maryland** (HB 1256, 2024), and **Virginia** (HB 2346/SB 1100, 2025) passed laws requiring utilities to propose pilot programs for virtual power plants (VPPs).



What kinds of electricity customer data are needed?

Ultimately, customer data needs will vary based on their use case (described below). At the overview level, typical data needs include:

1. Raw meter usage data: data collected right off the meter and into the utility systems, available very quickly --- can be valuable for DER operations and settlement
2. Billing quality usage data: after validation, editing, and estimation through which utilities clean it up, verify it, make sure it's accurate --- typically what is needed to understand customer usage.
3. Billing data: cleaned, billed data --- specifically: what was your bill last month? the past year? the past couple of years?
4. Customer and account information, including your account number. This may include your feeder ID. This could also include the rates and tariffs that a customer is on.



Common Categories of Energy Data

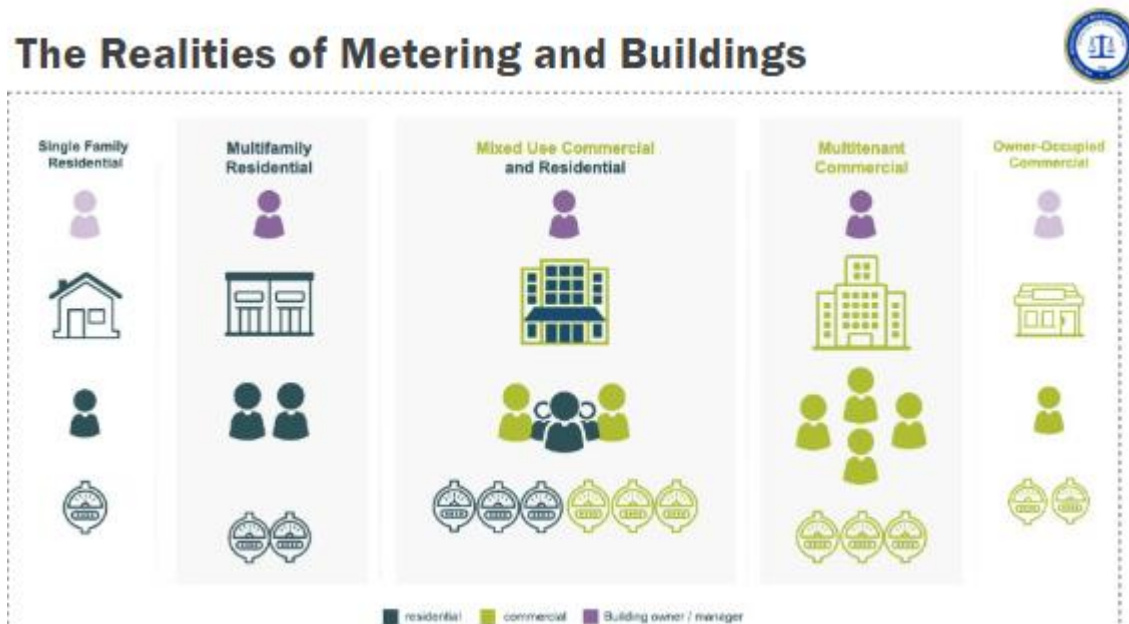
DATA		HIGH LEVEL REQUIREMENT
Type	Description	
Raw meter usage data	Customer interval usage data that has <u>not</u> yet gone through the VEE (validation, editing, estimation) process	<ul style="list-style-type: none"> • Data is provided in 30-minute intervals • Data is provided for net usage, consumption (Ch-1), and generation (Ch-2) where possible • Data is accessible via a dashboard view, file download, and API • Data is updated (refreshed) daily • Data contains 24 months of historical data • Data adheres to the latest Green Button Alliance data standards
Billing quality usage data	Customer interval usage data that has gone through the VEE (validation, editing, estimation) process	<ul style="list-style-type: none"> • Data is provided in 30-minute intervals • Data is provided for net usage, consumption (Ch-1), and generation (Ch-2) where possible • Data is accessible via a dashboard view, file download, and API • Data is updated every 10 days • Data contains 24 months of historical information • Data adheres to the latest Green Button Alliance data standards
Billing data	Monthly customer billing data, including summary usage information and billing charges	<ul style="list-style-type: none"> • Data is accessible via a dashboard view, file download, and API • Data is updated with a latency of 1 month • Data contains 24 months of historical information
Customer & account info	Information on customers and corresponding account details	<ul style="list-style-type: none"> • Data is accessible via a dashboard view, file download, and API • Data is provided for the current customer / account

*ComEd Data Platform Requirements – Customer Data

<https://www.icc.illinois.gov/docket/P2022-0486/documents/359481/files/629728.pdf>

What is different about multi-family or commercial building data?

Utilities track individual meters, but customers and buildings are often composed of multiple meters. Extricating data from utility systems for a non-residential customer or whole building often means combining multiple sets of data. From a utility perspective, data from the meters needs to be mapped to bill paying customers. Additionally, there could be a different building owner, landlord, or a property owner from the individual customer receiving service (e.g., a single apartment renter or commercial tenant).



How is customer privacy protected? What do aggregated and anonymized mean?

Customer privacy is a concern for all entities that promote data access. Ensuring that a customer initiates or authorizes access to their data is a fundamental step to initiate data sharing.

In addition, two universal strategies to further protect customer privacy (particularly for multi-tenant buildings) are: aggregating and anonymizing data. Because these terms are not always used consistently, it is essential to clearly define them and apply those definitions uniformly. For this webinar, the following definitions apply:

- **Aggregating:** combining and flattening data from many to one---like flattening customer data to a building-level, whole-building data set
- **Anonymizing:** de-identifying or making data nonspecific to individual customers, though generally still providing complete resolution or a larger data set.

What use cases require customer data access? What kinds of data are needed in each use case?

USE CASE	EXAMPLE USERS	EXAMPLE GOALS	DATA NEEDS	NOTES
1. SIZING RESIDENTIAL DISTRIBUTED ENERGY RESOURCE (DER) SYSTEMS	Solar+storage vendor or installer	Determine optimum system size, including rate considerations	<ul style="list-style-type: none"> • Billing quality usage data in standard format • Customer rate / tariff info • Customer and account info 	<ul style="list-style-type: none"> • At least one year of usage data is needed to answer: What are you paying every year? monthly? • Interval data for every day at 15 min, 30 min, or 1 hour. Granularity is important to understand seasonal usage, peak load impacts, system sizing based on dispatch schedules. • Rate and tariff info offers options for alternative rates that could benefit customer w/ new system (e.g., time of use)
2. ENROLLING IN DER PROGRAMS	Vehicle to grid (V2G) program implementer	Assess customer benefit from TOU EV charging program	<ul style="list-style-type: none"> • Billing quality usage data in standard format • Customer rate/tariff info • Customer and account info 	
3. DER AGGREGATION (ASSEMBLING A VPP)	VPP program manager	<ul style="list-style-type: none"> • Enroll multiple customers • Assess compensable load flexibility 	<ul style="list-style-type: none"> • Raw or billing quality usage data in standard format • Customer rate / tariff info • Customer and account info • Ongoing data to determine performance 	<ul style="list-style-type: none"> • Achieving any scale of aggregation requires easy customer consent and enrollment. • Rate and tariff info needed to determine eligibility for program and calculate incentive (e.g., rebate). • Interval usage data needed for 15 -min to 1-hour to understand potential for savings and actions to support load shaping and compare baseline against actual performance for payments. Even raw data might be needed to help with customer decision making during demand response events.

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USE CASE	EXAMPLE USERS	EXAMPLE GOALS	DATA NEEDS	NOTES
4. COMMERCIAL FACILITIES MANAGEMENT FOR OWNERS OF MULTIPLE BUILDINGS DIRECTLY PAYING UTILITY BILLS	<ul style="list-style-type: none"> • Retail chain with premises across multiple states • County government with tens or hundreds of facilities • Data centers w/ 24/7 CFE goals 	<ul style="list-style-type: none"> • Consolidate bills from multiple utilities and premises into a single management tool • Understand impacts of rate change • Identify and prioritize buildings for energy management 	<ul style="list-style-type: none"> • Billing quality usage data in standard format, regardless of utility • Electronic data transfer from multiple premises in machine-readable “flat file” • Rate and tariff information 	<ul style="list-style-type: none"> • Currently, an accounting team will receive scanned bills from different utilities with different levels and formats of data and manually enter data with the potential for errors
5. MULTI-FAMILY BUILDING OWNERS / OPERATORS WHERE OCCUPANTS PAY UTILITY BILLS	<ul style="list-style-type: none"> • Multifamily portfolio owners • Small property owners • HUD and affordable housing authorities 	<ul style="list-style-type: none"> • Baseline and benchmark energy consumption for compliance (e.g., local ordinance) and access to funds or programs (e.g., federal mortgage loan products) • Efficiency upgrades 	<ul style="list-style-type: none"> • Historic monthly usage data at bare minimum • Ongoing monthly usage data, preferably in standard format such as EPA Portfolio Manager 	<ul style="list-style-type: none"> • Three-quarters of large buildings served by electric utilities have multiple tenants / bill-paying customers. • “Solar doesn’t go on the wall” unlike a smart thermostat, so property owner and tenants might both need to engage utilities

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USE CASE	EXAMPLE USERS	EXAMPLE GOALS	DATA NEEDS	NOTES
6. MIXED-USE COMMERCIAL BUILDING OWNERS WHERE OCCUPANTS PAY UTILITY BILLS	<ul style="list-style-type: none"> • Small and large asset portfolio owners and managers • Service providers and vendors for the above 	<ul style="list-style-type: none"> • Baseline and benchmark energy consumption for compliance or ESG reporting • Access incentive funds / programs • Manage net operating income (NOI) • Efficiency upgrades 	<ul style="list-style-type: none"> • Historic and ongoing monthly usage data • Higher resolution building-level interval data highly desired 	<ul style="list-style-type: none"> • Currently, owners expend significant effort getting data for themselves from a variety of sources.

What are the fundamental steps for executing data sharing?

A significant amount of work is required to solidify data, security, and privacy to enable data sharing in the right ways. Effective data sharing relies on the integration of three key layers: a top layer of data users and owners, a middle layer of software, and a bottom layer of utility systems that authenticate and supply data (see figure).

Step 1. Customer Approval

The customer will go through a utility web portal to confirm their identity and give the utility information it can check against its systems.

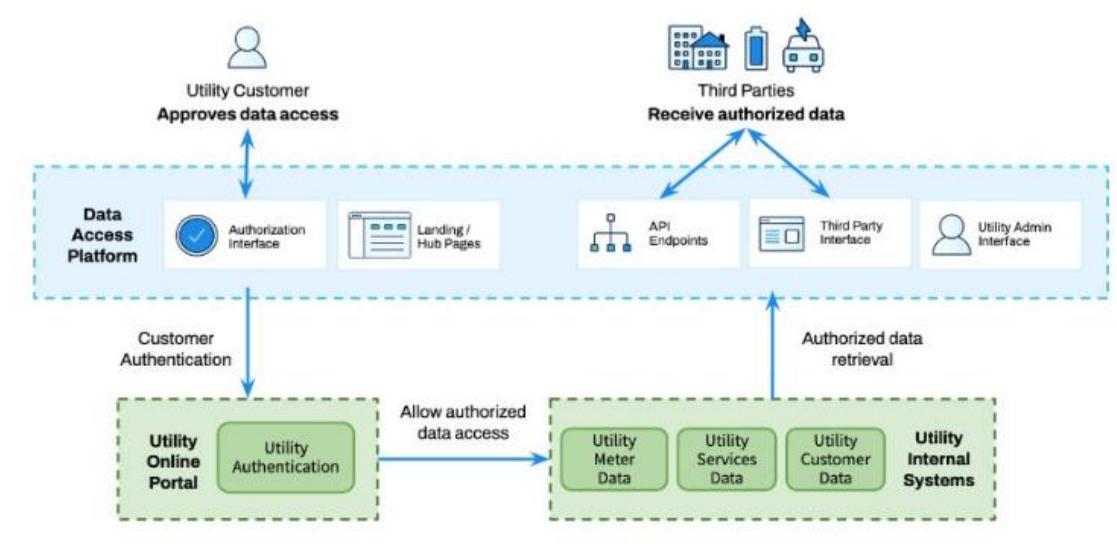
Step 2. Utility Authentication

The utility validates the user and then pulls the relevant information associated with that customer from its systems. For example, billing data and customer account data could originate from several different utility systems ranging from a meter data management system to a customer relationship management system.

Step 3. Data Retrieval

The approved data is pulled up through a software retrieval process for the third-party authorized by the customer and utility. (Both the customer and the utility manage access.) This layer of software creates an interface for the third-party and puts the data in a standardized format. It also creates a layer of abstraction so that the utility doesn't have to interact and integrate with every single different third-party looking for data. Third-parties can also look at multiple customers' data, while the utility could be paid to provide this data on the back end.

Visualizing the Technical Side



What is needed for data sharing systems to work well?

In some locations, data-sharing systems see limited use by customers and third parties. Several factors may contribute to this: the systems may be difficult to locate, lack broad customer

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participation—making it hard for third parties to determine whether use is worthwhile—or provide data inconsistently (for example, data requests may go unanswered).

Providing customer data in a standard format that can be quickly reviewed and processed is absolutely essential and promotes more auditability for regulators across all of these programs.

What is needed includes:

- Standard data formatting: Historically, there has been a strong effort to standardize data formats—first through electronic data interchange, and more recently through Green Button Connect, which has been in place for over a decade. These formats play an important role and can coexist effectively. They provide consistency for customers and third parties who may be working with data from numerous states and utilities. Standard formats can specify details such as the level of granularity used to represent a kilowatt-hour or the number of decimal places shown. However, standardization alone is not enough.
- Customer authorization process: Clarity and efficiency are key (i.e. not buried in multiple steps or legalistic language).
- Account provisioning: A well-designed process is needed for onboarding and registering third parties. For example, consider a multi-state solar developer with several employees preparing proposals for individual customers. The company should be able to complete all necessary security agreements while also managing its own staff and ensuring that each team member has appropriate access to the information they need.
- Application programming interfaces or APIs: This refers to how different software systems exchange information—sending and receiving data in specific formats. APIs simplify this process by enabling standardized connections between systems, eliminating the need to develop custom coding methods. They also provide a more secure and prominent mechanism for vendors to connect and share data.

What are some positive examples of supporting data access among states?

A [recent report](#) from North Carolina Clean Energy Technology Center and SEPA suggests that about 40 states are working on various aspects of virtual power plant programs and distributed energy resource aggregation. As noted in the report, data access is critical to VPP and aggregated DER success.

Two publicly available maps show where utilities have enabled customer data access:

- Mission:Data tracks which utilities and states offer Green Button Connect data access in the [Green Button Explorer map](#). (Green button is a standard for downloading or electronically transferring data with prescribed categories of data that can be used regardless of utility or state.)
- EPA tracks [utilities that support ENERGY STAR Portfolio Manager](#) data transfers, which are intended to support benchmarking and tracking energy efficiency.

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In addition, there are a handful of states with clear data sharing examples:

- **Texas** has operated its platform for more than five years, making it one of the longest-standing systems of its kind. It serves as a statewide platform that provides access to customer data.
- **New York** is currently building their platform, which is intended to provide access to customer data system data rates and tariffs.
- **California**, through the California Energy Commission, is working towards a statewide rate tool.
- **New Hampshire** is in the midst of procuring a data sharing platform.
- **Massachusetts** utilities were recently legislatively mandated to create a statewide customer data platform.
- **Illinois** utility ComEd recently established data requirements, and Ameren Illinois also has data requirements. The Illinois utilities have recognized that the current lack of standardization warrants further examination—specifically, whether adopting a statewide approach or moving toward broader national standards would be more effective.

How have states or utilities initiated data access?

The origin stories of the examples above are quite varied and include:

- State legislative action / requirements
- City or county benchmarking or building performance ordinances
- Utility regulatory convenings to support achievement of various use cases (e.g., see NARUC Grid Data Sharing Framework)
- Utility commission incentives or cost recovery limits to ensure customer benefits (e.g., Washington Commission decision to withhold some of the prudence associated with cost recovery until certain use cases were demonstrated for advanced metering, Hawaii performance incentives for utility enabling customer benefits).
- Utility-DER provider negotiations about costs (e.g., consolidated billing for community solar, developer payments for funding the cost of bill consolidation, hybrid revenue sharing where a portion of the costs of the data system are paid by the third-party users of the system).