



STATE & COMMUNITY ENERGY PROGRAMS

DATA ACCESS GUIDELINES

IRA SECTION 50121: HOME EFFICIENCY REBATES

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Introduction

The U.S. Department of Energy (DOE) has developed these Data Access Guidelines (Guidelines) in response to the Infrastructure Inflation Reduction Act of 2022 (IRA) mandate in Section 50121(c)(5) (Home Efficiency Rebates), which includes the following provision:

DATA ACCESS GUIDELINES. The Secretary shall develop and publish guidelines for States relating to residential electric and natural gas energy data sharing.¹

These Guidelines are designed to be paired with the Program Requirements & Application Instructions for the Home Efficiency Rebates but might also be a valuable reference for use in other energy efficiency and electrification programs.

These Guidelines focus on utility-metered data of energy consumption and address key aspects of data sharing, including consent processes, customer notification, data protection, liability considerations, and the roles and responsibilities of various stakeholders. The Guidelines are designed to balance the need for access to energy data to drive innovation, improve energy efficiency, improve customer experience, and support the development of new energy services with the paramount importance of protecting customer privacy and ensuring the security of customers' data.

¹ 42 U.S.C. 18795(c)(5).



There are multiple uses for energy consumption data. The focus of these Guidelines is for the purpose of program implementation, including identifying, targeting, and educating customers who might be eligible or good candidates for energy programs, and identifying savings opportunities and estimating savings prior to installation.² Other uses for energy consumption data include evaluation of energy savings from completed projects.

The purpose of these Guidelines is to provide a framework for States, utilities, third parties, and other stakeholders involved in the residential electric and natural gas energy sectors to ensure safe, efficient, and transparent data-sharing practices for program implementers. These stakeholders (in the context of Section 50121) include:

Stakeholder	Role Related to Energy Consumption Data
Customer	Homeowners, building owners, or building occupants who are the target of program outreach, education and services and the owners of their energy consumption data.
States/Territories	Government entities responsible for design and administration of programs as defined in IRA mandate 50121(2)(A). These entities do not directly receive or manage energy consumption data but are responsible for determining how these data are transferred to meet program requirements and objectives.
Utilities	Protect, collect, and maintain customer energy consumption data. Responsible for security of data. Providers of data to third parties.
Third-Party Program Implementers	Organizations outside of the State or utility that have implementation or outreach and education uses for energy consumption data. This may include program implementers such as contractors, trade allies who implement the energy program on behalf of the State, and/or energy aggregators who offer their own independent energy efficiency services.

It is essential that all parties involved in the residential electric and natural gas energy data-sharing ecosystem work together to establish and maintain a secure and trustworthy environment. DOE encourages collaboration, cooperation, and ongoing communication among States, utilities, third parties, and other stakeholders to encourage the timely, secure sharing of energy consumption data from utilities to program implementers to improve energy efficiency programs and support innovation.

By following these Guidelines, States and other stakeholders can contribute to the responsible and sustainable growth of the residential electric and natural gas energy sectors while protecting the privacy, security, and interests of customers.

² These guidelines do not include energy consumption and project asset data access post installation assuming that customers who have agreed to participate in programs and receive rebates are consenting to access and uses of their consumption data for purposes of reporting, evaluation, and other uses as listed in program agreements.

DOE recommends States use these Guidelines to develop their **Data Access Plan**. For program design that utilizes energy consumption data prior to project installation (i.e., Section 50121 Modeled or Measured), States should develop a comprehensive Data Access Plan as part of program development, prior to the initiation of the program.³

Data Access Guidelines Elements

The Data Access Plan should outline the requirements of the sharing of energy consumption data between utilities and program implementers based on that plan. DOE recommends that the State's Data Access Plan should include, at a minimum, the following elements:

- Security and Safety of Energy Consumption Data
- Consent, Notification, and Revocation Process
- Eligibility of Third Parties
- Data Aggregation and Anonymization
- Quality and Accessibility of the Data (Quality/Frequency)
- Oversight and Enforcement

These elements are described in detail below.

Security and Safety of Energy Consumption Data

Energy consumption data, when shared by States, utilities, and third parties, **must** be transferred and maintained in a safe and secure way, identifying, and adhering to or exceeding the security requirements of established standards such as NIST SP 800-171;⁴ FIPS 200; ISO/IEC 27001, 27002, 27005; and INCITS/ISO/IEC 29100, 29101, 29134. Not all of these may apply but are available for reference in developing an individual Data Access Plan.

A State **must** ensure that that any parties participating in a program that requires energy consumption data shall develop secure data protection⁵ and protocols and demonstrate the capability for a safe transfer of customer data. The State's Data Access Plan should describe the following, at a minimum:

- Where needed, encryption methods used for data transfers (e.g., SSL/TLS) and data at rest (e.g., AES)
- Implementation of any third-party authentication required for access to customer data
- Protocols or methods by which the organization adheres to the established security guidelines and data classification system
- Framework for monitoring and reporting security incidents, as well as the procedures for responding to data breaches and other security-related events

³ Note: DOE may request the provision of energy consumption data for participants receiving rebates for the purposes of impact evaluations, which is not covered in these Data Access Guidelines.

⁴ The data here is not intended to cover controlled unclassified information (CUI).

⁵ See Program Requirements Section 3.1.6.1 for additional information and requirements for data protection.

States are encouraged to leverage established data-sharing processes and guidelines and reference the following examples and tools:

- Standards that have been developed through the Green Button Protocols. Green Button *Connect My Data* (CMD) is an open data standard designed to unlock access to utility interval usage and billing data, providing easy, seamless access for software applications. Green Button CMD enables utility customers to authorize third-party solutions to quickly and securely obtain interval meter data and enables an accurate and detailed level of analysis to inform energy and water management decision-making while ensuring customers' data are protected and their privacy is maintained.
- Parties should review North American Energy Standards Board (NAESB) standards, including third-party access to smart meter-based information, available at https://naesb.org/retail_standards.asp.
- The U.S. Environmental Protection Agency (EPA) [**Guidance for Utilities on Providing Whole-Building Energy Data to Enable Benchmarking in ENERGY STAR Portfolio Manager**](#)[®] resource provides guidance for utilities and states. In many parts of the country, whole-building energy data are not readily available to multifamily building owners, making it difficult if not impossible for them to track or report whole-building energy use. To enable multifamily building participation in Section 50121 programs,⁶ EPA is available to assist States looking to require or support utilities to make this data available; please contact statelocal@energystar.gov.

Consent, Notification, and Revocation Process

A State **must** define the customer consent process for any instance when customer energy consumption data will be shared with a third party prior to participation.⁷

Consent options include:

- **Opt-in Process:** In an opt-in consent process, like Green Button,⁸ customers proactively give their consent before their data are shared with a third party. This approach provides a higher degree of control to the customers, as their data will not be shared without their explicit approval.
- **Opt-out Process:** In an opt-out consent process, customers are automatically enrolled in the data-sharing program, and their data will be shared with third parties unless they explicitly opt out. In this process, customers still must be notified their data will be

⁶ In addition to participation in Section 50121 programs, lack of whole-building energy data will create barriers to multifamily participation in the expanded Section 179(d) tax deduction, loans, and grants through the HUD Green and Resilient Retrofit Program, and the ability to benchmark for the benefit of identifying improvement opportunities. Visit www.energystar.gov/utilitydata to see where utility solutions for this data currently are available nationwide.

⁷ Customers who have participated in the program and have installed measures and received a rebate through the program will share their data for verification purposes.

⁸ A DOE-led initiative to provide utility customers with easy and secure access to their energy usage information in a consumer-friendly and computer-friendly format is explored at <https://www.energy.gov/data/green-button>.

shared, but this approach places more responsibility on the customers to be aware of and manage their participation in data-sharing programs.

- Open Access: The open access model shares customer utility data with third parties without customer consent. Unless informed, the customer is generally unaware that their data are being shared. The open access model for data sharing has the potential to provide valuable insights for third-party implementers; however, DOE acknowledges that implementing this model as the baseline standard presents numerous concerns with customer privacy, and considerable legal and regulatory complexities.
- Data Aggregation: The data aggregation model will allow aggregate and anonymize the customer energy data. This will allow third parties to access data without compromising customer privacy. This pathway may be able to reduce security risks, reduce the cost of data transfer, and increase participation in the program in areas without established data protocols.

A State should give customers consent rights if they are sharing data prior to participation. At a minimum, this would include an opt-in process. States are encouraged to consider an opt-out approach that might provide an appropriate balance of customer awareness and third-party access to data. Additionally, States might need to consider unique approaches for specific building types (e.g., multifamily buildings) where opt-in consent by all tenants could be a barrier. In those cases, States should encourage utilities to aggregate housing unit data to the building level.

When determining the appropriate consent and notification approach, States should consider the tradeoffs between customer awareness, customer control, customer value, and State value in meeting program goals and objectives. States should also consider data access value for various phases of the program, including marketing, home energy assessments, and project installation. For example, open access approaches provide value to identifying and educating consumers, but less value once the consumer is aware of the program and can consent to sharing their energy usage. As is standard with efficiency programs, data consent is generally required to participate in programs and receive a rebate.

States may already have established plans for accessing consumer data with relevant parties that address the recommendations set out in these Guidelines, and for those areas, the State should outline the existing data protocols and how they relate to the considerations below. For States that will establish or expand their existing protocols, depending on the consent approach, States should define the following in their Data Access Plan where applicable:

- Which data sharing and customer consent approach they will be using.
- How customers will be informed about the data-sharing program, the third parties involved, and the purpose of sharing their data.
 - States should describe how they will leverage multiple communication channels to effectively reach customers.
 - States should establish protocols for timely notifications in case of data breaches, including coordination with relevant parties.

- How customers will enroll or opt out of data-sharing agreements and how customers will change their enrollment status.
- How customers will be notified of their enrollment status and remind them of their right to opt out at any time.
- How States will monitor customer opt-out requests and update data-sharing permissions accordingly.
- How States will review and update consent records to ensure continued compliance with the opt-in process.
- How a customer can revoke any previously granted authorization by either the customer request or due to termination of utility service.

States are encouraged to:

- Follow best practices for obtaining informed or uninformed consent from customers including ensuring a user-friendly process, such as allowing enough time for utility billing cycles.
- Work with utilities to permit online authorizations by customers without requiring creation of an online account.
- Adopt a consent process that discloses the necessary information to the customer, such as the name of the third party, the category of information to be shared, the accounts or meters to be shared, the intended purpose and the use of the data being requested, the time period during which the secondary use will take place, and information about the third party's privacy policy.
- Consider leveraging elements of established consent processes or models from other sectors, programs, or jurisdictions to develop the consent process guidelines, such as the Federal Trade Commission's **Protecting Consumer Privacy in an Era of Rapid Change**.

An alternative to sharing customer-specific information is to aggregate and anonymize the data. Additionally, as noted above, this approach is also useful during the assessment phase for multifamily buildings. DOE recommends States explore using the **EPA Portfolio Manager tool** for multifamily building data.

States should collaborate with utilities and third parties when developing their Data Access Plan and implementing systems, including best practices for data aggregation and anonymization, ensuring that customer privacy is maintained while the data remains useful for analysis. DOE, upon request, may provide technical assistance to parties who need assistance in this process.

The State's Data Access Plan should describe the following, as applicable:

- Data aggregation techniques used, such as k-anonymity or other methods that preserve customer privacy while allowing third parties to analyze the data.
- Differential privacy techniques utilized to add controlled noise to the data and preserve privacy while maintaining usefulness for analysis.

- Established guidelines for minimum aggregation and anonymization level, as well as the process for requesting more granular data.

Primary and Secondary Purpose

Energy consumption data that is provided to a third party is classified for either primary or secondary use based on the consent process selected by the State. Different levels of data will be required based on the selected path. Industry best practice generally defines these as the following:

- Primary purpose: This level defines the use of customer data for performing essential functions based on program path such as measuring energy savings or fulfilling program and legal requirements. An example of primary data in an opt-out consent path is providing energy consumption data (post-notification and opt-out period) along with the explicit use of the data to the third party for the purposes of the program.
- Secondary purpose: This level defines the use of customer data in outreach and education and additional product offerings that the customer does not already receive or has not authorized. Examples of secondary purposes include targeted advertising for other energy equipment and sharing data with a third party for a service not included in the State program.

Generally, uses for a secondary purpose require some level of customer consent, which States should consider when defining energy consumption data as either primary or secondary uses. However, these definitions can vary depending on policies between utilities and regulators. States should be aware of and consistent with any existing regulatory requirements, laws, and definitions.

States **must** define energy consumption as a primary or secondary purpose. States should also define, and may restrict, the ability for third parties to utilize energy consumption data for any uses beyond direct application of the Home Efficiency Rebates program. States may also place limitations on the types and extent of secondary purposes to prevent excessive marketing or unwanted data sharing.

Data Details and Frequency

The quality of data and the speed of data provision from utilities to States or third parties is important because it ensures that the data are timely and useful.

The State should determine and disclose the level of access that parties will share as part of the purpose of the data for the program, along with the details of the data that will be shared and the frequency that data will be shared. For example, a program that needs to access area median income data may need data collected at an interval that corresponds to the real-time wholesale market, whereas some programs are focused only on savings before and after installation and only need monthly billing data.

The State's Data Access Plan should describe the following:

- How the parties sharing customer data plan to ensure data accuracy during transfers.
- Frequency of data sharing based on the legal, regulatory, and industry requirements.
- Process for dealing with data discrepancies.

DOE recommends that States, utilities, and third parties negotiate data quality standards and practices through contractual agreements.

States are encouraged to leverage the following examples and tools such as existing data quality standards or practices, such as those in California, New York, and Texas,⁹ as a starting point for developing their guidelines and recommendations, but only as recommendations and not strict requirements.

Eligibility, Oversight, and Enforcement of Third Parties

States should demonstrate they have a process for ensuring that participating third parties are capable of handling, protecting, and securing customer energy data and that the third party is using the data exclusively for delivery of energy savings to authorized end use customers. The State should negotiate data handling, use, and protection with third parties through contractual agreements.

The State's Data Access Plan should describe the following:

- Eligibility criteria for third parties that take into consideration the legal, regulatory, and industry requirements, including but not limited to Federal tax identification, as well as a data-sharing agreement in a contract that outlines the terms of use of the data. Other considerations for eligibility may include providing contact information, acknowledging receipt and review of privacy guidelines, not being disqualified by the regulator, and adopting a nationally accepted eligibility standard.
- How States will ensure that any participating third parties are using the data only as approved to deliver energy efficiency services and demonstrate the ability to deliver savings to customers.

States are encouraged to leverage the following examples and tools:

- DOE's 2015 **Voluntary Code of Conduct: Final Concepts and Principles for Data Privacy and the Smart Grid** or a similar nationally accepted eligibility standard approved by the regulator as a necessary, comparable, reasonable, and appropriate alternative.
- Existing eligibility criteria used by utilities, regulators, or other programs (e.g., California, Colorado, New York, and Texas) as a starting point for developing their guidelines and recommendations.

⁹ See California (E-4868), New York (Case 20-M-0082), and Texas (47472). Also, <https://database.aceee.org/state/data-access>.

The State should describe which organization (i.e., utility potentially in conjunction with a regulatory authority, such as a public utility commission or another relevant agency) will be responsible for policing, on an ongoing basis, third parties that are not following program protocols.

The State's Data Access Plan should also describe the following:

- The process by which complaint allegations against third parties are reviewed.
- Utility method for the notification process for terminating or suspending a third-party implementer.
- Utility approach to establishing review cycles to change or rebid third parties for contractual changes.
- Contractual terms in place to protect customers from bad actors. Third parties should be granted due process considerations prior to any enforcement action being taken, such as termination of access. The applicant will discuss the timetable of that process.
- The process of updating procedures based on ongoing collaborations with third parties, utilities, and DOE to address data protection challenges and share best practices for risk mitigation.

Enforcement mechanisms may involve revocation of the ability to run or participate in the program, notification to DOE to alert other programs about a bad actor nationwide, and in extreme cases, legal action for harm or damage.

States are encouraged to leverage the following examples and tools:

- Examples of enforcement procedures can be found in California, New Hampshire, and Texas.¹⁰
- Utilities' or program providers' standard contracts with third parties can also serve as a reference.

Learn More

Visit the [Home Energy Rebates website](#) to learn more information about these programs and to sign up to [receive email updates](#).

Questions about these rebate programs can be [submitted online](#) or sent to IRAHomeRebates@hq.doe.gov

¹⁰ See California (D.13-09-025), New Hampshire (DE 19-197), and Texas (47472).