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IRA Section 50121 Home Efficiency Rebates: Data Access Pathways Background and Plan Templates

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# Data Access Plan Overview

The purpose of this document is to provide template(s) for states to use in developing their Data Access Plans for Inflation Reduction Act (IRA) Section 50121 Home Efficiency Rebates programs. States should:

1. Determine the right data access plan template to complete by reviewing this overview section and pathway sections, as needed.
2. Complete the relevant Data Templates in Sections A and B.

## Requirements

IRA Section 50121 states “[t]he Secretary shall develop and publish guidelines for States relating to residential electrics and natural gas energy data sharing.”[[1]](#footnote-2) Released in July 2023, the [Utility Data Access Guidelines](https://www.energy.gov/scep/articles/ira-50121-home-efficiency-rebates-data-access-guidelines) include best practices for data access and sharing and recommendations for developing a comprehensive Data Access Plan.

As described in Section 3.2.3 of the [Home Energy Rebates Programs Requirements & Application Instructions](https://www.energy.gov/sites/default/files/2023-10/home-energy-rebate-programs-requirements-and-application-instructions_10-13-2023.pdf), states must develop and submit a Utility Data Access Plan that, at a minimum, includes the following:

* Ensure that all data are transferred and maintained safely and securely, using established standards.
* Ensure that any parties participating in a program that requires energy consumption data have secure data protection and protocols that demonstrate the capability for a safe transfer of consumer data, including data for individual dwelling units and whole-building aggregate data for multifamily buildings.
* Determine which consumer consent processes the state will implement.
* Define energy consumption as primary or secondary purpose.

DOE strongly encourages states to develop a comprehensive Utility Data Access Plan that also addresses the other recommendations of the Utility Data Access Guidelines, as states will likely have to address those topics with relevant parties and stakeholders to implement a Home Efficiency Rebates program. A state may utilize existing data access plans to satisfy this requirement if those plans fulfill the DOE requirements.

## Data Access Pathways

The decision tree below is meant to clarify the different options, or ‘pathways,’ states have in data access and provides additional insights on each pathway, for both single- and multi-family customers. It helps state energy offices select the most suitable pathway based on their state’s existing infrastructure and capabilities (see Figure 1).

The most suitable pathway for each state depends on the governing regulations and existing energy data collection infrastructure and capabilities, which vary from state to state. Given this diversity, DOE created the following decision tree that states may use to determine the most appropriate data access pathway given their unique circumstances and capabilities. States may implement multiple pathways depending on whether their program addresses the single-family versus multifamily residential market and/or various utility service territories. Figure 1 maps six possible pathways, which align with the required data plan templates Sections A-C of this document. Each pathway is described in detail in the following sections. After using the decision tree to determine their likely pathway, states should complete the relevant Data Access Plan template(s).

Figure . Table of Pathways and Associated Document Sections

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A few key concepts used in this document include:

* **Pre-participation targeting data** refers to energy consumption data used for marketing and targeting homeowners and building owners prior to their awareness or engagement with the program.
* **Program implementation data** refers to energy consumption data used during or after homeowner/building owner participation, including implementation, reporting, or evaluation purposes.[[2]](#footnote-3)
* **Aggregation.** The Guidelines discuss aggregation as a pathway to collect data. There are two types of aggregation discussed in this document:
  + **Whole-Building Data Aggregation**: For Multifamily buildings where individual units are metered, aggregate property-level energy consumption data is valuable to enable programs to serve these multifamily buildings without the need for individual tenant-level authorization (see [Section A1b](#SectionA1b)).
  + **Geographic Aggregation.** This pathway is typically used for pre-participation targeting data for both single-family buildings and multifamily buildings. The data would be aggregated at the geographic level to provide insights about characteristics of energy use of similarly located buildings to support program design and outreach. See [Section C](#SectionC).

# Section A. Opt-In Pathways

This section describes the various opt-in pathways and provides a Data Access Plan template for each one. States may have multiple opt-in pathways for their state and therefore may need to complete multiple templates.

In an opt-in process, engaged residents/owners proactively give their consent before their data is shared with an authorized third party.[[3]](#footnote-4) The opt-in approach provides a high degree of control to the consumers, as their data will not be shared without their explicit approval.

The opt-in process provides required program implementation data, as participants must generally opt in to receive a program rebate. Streamlined protocols that have existing protocols and platforms for opt-in, such as Green Button (A1a) and the Environmental Protection Agency’s (EPA) Portfolio Manager (A1b) are likely the easiest opt-in pathways. Yet, if these are unavailable to some or all the utilities in your state, then states and their program implementers can also collect energy consumption data from utilities (A2), or directly from homeowners, tenants, or building owners (A3).

Because of the opt-in aspect, pre-participation targeting data are not inherently created in this pathway. Therefore, for targeting data, states should review the Geographic Aggregation ([Section C](#SectionC)) may be used.

# Section A1a. Opt-In: Green Button

## Pathway Background

The Green Button initiative is an industry-led effort that provides utility customers with easy and secure access to their energy usage information in a consumer-friendly and computer-friendly format. Through *Green Button Download My Data* customers can securely download their own detailed energy usage with a simple click of a literal "Green Button" on electric utilities' websites. Green Button is based on the Energy Services Provider Interface (ESPI) data standard, which includes a common XML format for energy usage information and a data exchange protocol which allows for the automatic transfer of data from a utility to a third party based on customer authorization. A newer capability, *Green Button Connect My Data* *(CMD),* allows utility customers to automate the secure transfer their own energy usage data to authorized third parties, based on affirmative (opt-in) customer consent and control.

To date, a total over 50 utilities and electricity suppliers have signed on to the initiative. Your state should confirm[[4]](#footnote-5) if the utilities within the state have existing Green Button capabilities or if the utility is committed to setting up such systems. Green Button can be used for single-family homes and some multifamily buildings (e.g., centrally metered and buildings where all tenants can provide consent). [[5]](#footnote-6) Green Button CMD has significantly advanced the establishment of standardized protocols concerning the management and dissemination of energy data. Green Button CMD provides multiple benefits, such as:

* Provides utilities the ability to digitally provide energy usage data in a standardized, consistent format.
* Ease of access and simplification of the analysis of energy data for consumers, thereby promoting informed energy consumption choices.
* Empowers customers with the ability to securely transfer their energy consumption data to an authorized third party who can assist them in monitoring or measuring energy use and savings.
* Flexible data standard that can handle different types of energy data and time interval usage, and applications.
* Development of standards-based applications for DOE and customer-authorized third parties, including contractors and aggregators.
* Cross-state comparison, increasing ease of implementation for contractors and aggregators, and providing required program implementation data.

If *Green Button Download My Data or Connect My Data* are not universally available across the state and/or are unlikely to be ready when the state's Home Efficiency Rebates program begins, the state can still promote and encourage the creation of these data solutions to potentially incorporate them in upcoming years of the rebates program.

Table . Opt-In: Green Button Pathway Summary

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| Advantages | Green Button provides a standardized format and established protocols for single-family homes and centrally-metered multifamily properties. Green Button CMD data is provided in a consistent format making it easier for third-party developers to create tools, apps, and services, especially for program implementation data.[[6]](#footnote-7) Consent is a built-in feature; data access is granted with user permission only, ensuring privacy and security, and requires a single authorization. Green Button is easy to use for customers, and multiple parties (i.e., third parties, states, utilities) can encourage customers to use the pathway. |
| Challenges | For utilities that have not yet implemented the Green Button standard, there might be costs associated with setting up and maintaining the system. The level of data detail might vary between utilities, which can be a challenge for third parties. |
| Home Efficiency Rebates Program Considerations | For both Section 50121 (Measured and Modeled) programs, this pathway provides Evaluation/Implementation data.  To support pre-participation targeting, states may consider adding Geographic Aggregation (see [Section C](#SectionC)). |

## Data Access Plan Template

*[If your state plans to use an opt-in Green Button pathway, please answer the following questions]*

### Intro and Overview of Data Access in Your State

1. Confirm your state plans to collect energy consumption data directly from Green Button for at least some program options. (If no, then please refer to the general overview and pathway sections to determine correct pathway and template for completion)

Yes

1. Identify the Home Efficiency Rebates Program(s) that your state plans to use Green Button for:

Modeled, Single-family

Modeled, Multifamily[[7]](#footnote-8)

Measured, Single-family

Measured, Multifamily

1. Identify the utilities in your state that have Green Button protocols in place or are expected to be in place at the time of program implementation.

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1. Describe any existing program activities, platforms or agreements that are in place in your state that enable the collection of data via Green Button.

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1. Provide an overview of the processes and entities that will gain consent, collect, transfer, and maintain the energy consumption data as provided by residents and owners. Examples of responses could include, but are not limited to:
   1. Consent is given by the customer to the utility through the utilities’ website and retained by the utility.
   2. Energy consumption data will be transferred from the Green Button via [*this secure protocol*] into the [*INSERT NAME*] secure system used by the [*program staff, state staff, other*]
   3. Energy consumption data will be maintained and stored in the [*INSERT NAME*] secure system and maintained by the [*program staff, state staff, other*].
   4. Individual energy consumption data for the program will be provided to [*only state and DOE*] in [*the following instances such as for conducting the program requirements*]. (Note: This is not designed to limit customers’ ability to transfer data to third parties (e.g., contractors and aggregators) they have selected using Green Button protocols.
   5. Transfer to DOE: The [*System/Process*] will transfer data to DOE using the following protocols.

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### Security and Safety of Energy Consumption Data

1. Confirm the state has developed Green Button data exchange protocol that allows for the automatic transfer of data from a utility to a third party based on customer authorization.

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1. Describe how your state will ensure that any data are transferred and maintained safely and securely, using established standards. Describe:

* Encryption methods for data transfers
* Protection of data collected and stored
* Protocols in place for security guidelines and data classification
* How the entity responsible for administering the program will notify a customer if there are data breaches or other security related events.

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### Consent, Notification, and Revocation Process

1. Confirm that all residents/owners will provide their consent through their utility for energy consumption data to be transferred to the state via Green Button.

Yes

No. Describe the state’s alternative consent approach.

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### Data Details and Frequency

1. Indicate the timing of energy consumption data to be collected. If multiple options are selected indicate those use cases:

Monthly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hourly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Daily\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Indicate the frequency for energy consumption data to be collected by the program (i.e., when will data be available for the program).

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Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

### Primary and Secondary Purpose

1. Please describe the primary purpose(s) of the energy consumption data.

* Implementation and reporting data for the program
* Please describe any other primary purposes, if applicable (e.g., building benchmarking, emissions reductions etc.).

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1. If relevant, describe any secondary purposes[[8]](#footnote-9) of the energy consumption data and the entities that it will be provided to (e.g., data will be provided to third parties to offer additional services like demand response initiatives, or other state-based programs).

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1. Identify if the program plans to Geographically Aggregate program data collected and provide it publicly.

No

Yes. Describe how data will be aggregated and anonymized, and how it is intended to be published.

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### Eligibility, Oversight, and Enforcement of Third Parties

1. Describe the eligibility criteria for third parties that will be collecting energy consumption data on the state’s behalf to access energy consumption data collected from utilities (e.g., contractual agreement with the state or program implementer that requires data security and privacy).

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1. Confirm that the entities with access to energy consumption data will only use the data as approved for program purposes.

Yes

No. Describe the entities and purposes of their use of the data and how consent was obtained for these purposes.

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# Section A1b. Opt-In: EPA Portfolio Manager (Multifamily Buildings)

## Pathway Background

Across the country, access to whole-building (or whole-property) energy consumption data is frequently limited for the owners/operators of multifamily properties – especially in cases where individual residents are billed directly by the utility and the property owner is considered a “third party.” This can present difficulties in assessing energy performance at the level of the entire property (including benchmarking), estimating the likely impact of projects implemented under the Home Efficiency Rebates Program, and validating property-level savings following project completion.

To date, more than 80 utilities across the country[[9]](#footnote-10) have already adopted approaches by which aggregate property-level energy consumption data may be provided to the building owner/operator without the need for individual tenant-level authorization. Such data access solutions may be implemented at the utility’s discretion or may result from state-level action (e.g., legislation, public utility commission (PUC) order). In either case, provision of whole-building aggregate data is typically subject to a minimum number of resident units or unique customer billing accounts at the property, to ensure that the individual energy consumption of any specific resident cannot be re-identified. Furthermore, in the majority of cases, these utilities are delivering aggregate energy consumption data to the requestor via EPA’s Portfolio Manager tool, using the established application programming interface (API).

Where aggregate whole-building data access is already offered by one or more utilities within a state, the state may wish to leverage these existing approaches to support the implementation of Home Efficiency Rebates for multifamily properties. If such approaches are absent and/or are unlikely to be ready when the state's Home Efficiency Rebates program begins, the state can still promote and encourage the creation of these data solutions to potentially incorporate them in upcoming years of the rebates program.

Table . Out-in: EPA Portfolio Manager for Aggregate Whole-Building Multifamily Data Pathway Summary

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| Advantages | Allows states to leverage existing/planned pathways for providing whole-building aggregate energy consumption data to multifamily building owners/operators.  Aligned with existing market familiarity with EPA’s Portfolio Manager as a central benchmarking and data management tool.  Multiple implementations already exist across the U.S., providing a clear set of best practices. |
| Challenges | Portfolio Manager Connection and Sharing protocols do not implicitly/inherently make use of authorization standards such as Green Button, OAuth[[10]](#footnote-11), etc. If this is desirable to a state, the two approaches can be layered – but this is outside the scope of the Portfolio Manager API itself.  The expected granularity of data passing through Portfolio Manager is monthly. If intervals more granular than monthly are required for program implementation, Portfolio Manager may not be the appropriate mechanism for accessing these data. |
| Home Efficiency Rebates Program Considerations | For both Section 50121 (Measured and Modeled) programs, this pathway provides Evaluation/Implementation data. Note: For multifamily properties, Modeled program allows exception in modeling because BPI-2400 applies only to single-family homes.  To support pre-participation targeting, states may consider adding Geographic Aggregation (See [Section C](#SectionC)). |

## Data Access Plan Template

*[If your state plans to use an opt-in Portfolio Manager pathway, please answer the following questions]*

### Intro and Overview of Data Access in Your State

1. Confirm your state plans to collect aggregate whole building energy consumption data via Portfolio Manager to conduct building benchmarking. (If no, then please refer to the general overview and pathway sections to determine correct pathway and template for completion).

Yes

1. Identify the Section 50121 Program(s) that your state plans to use this pathway and home type for:

Modeled, Multifamily

Measured, Multifamily

1. Describe any existing program activities, platforms or agreements that are in place in your state that enable the collection of data directly from utilities to aggregate multifamily building usage data.

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1. Provide an overview of your state program’s processes and entities that will collect, transfer, and maintain the whole-building aggregate energy consumption data of multifamily buildings. Examples of responses could include, but are not limited to:
   1. Consent will be requested of [*owners and/or tenants*] and documented by [eligible parties e.g., *program staff, home auditors*] in the form of [*a participation agreement*]
   2. Energy consumption data will be requested of utilities and collected by [*program staff, home auditors*] in the form of [*access to utility bills through electronic means*]
   3. Energy consumption data will be [*transferred to,* *uploaded*] into the [*INSERT NAME*] secure system used by the [*program staff, state staff, other*]
   4. Energy consumption data will be maintained and stored in the [*INSERT NAME*] secure system used by the [*program staff, state staff, other*].
   5. If applicable, individual energy consumption data will be provided to [*only eligible parties*] in [*the following instances such as for conducting the program requirements*].
   6. Aggregated energy consumption data will be shared with [*only eligible parties*] in [*the following instances such as for conducting the program requirements*].
   7. Transfer to DOE: The [*System/Process*] will transfer data to DOE using the following protocols.

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### Security and Safety of Energy Consumption Data

1. Describe how your state will ensure that any data are transferred and maintained safely and securely, using established standards. Describe:

* Encryption methods for data transfers
* Protection of data collected and stored
* Protocols in place for security guidelines and data classification
* How the entity responsible for administering the program will notify a customer if there are data breaches or other security related events.

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### Consent, Notification, and Revocation Process

1. Confirm if data will be collected from utilities about multifamily residents/owners with their consent.

Yes

No. Describe the state’s alternative consent approach.

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### Data Details and Frequency

1. Indicate the timing of energy consumption data to be collected and aggregated. If multiple options are selected, indicate those use cases:

Monthly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Annual \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Indicate the frequency for energy consumption data be collected and aggregated by the program.

At the time of benchmarking/audit\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12 months after program (likely for measured) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

### Primary and Secondary Purpose

1. Please describe the primary purpose(s) of the energy consumption data.

* Implementation and reporting data for the program
* Please describe any other primary purposes, if applicable (e.g., building benchmarking, emissions reductions etc.).

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1. Describe any secondary purposes[[11]](#footnote-12) of the energy consumption data and the entities that it will be provided to. (e.g., data will be provided to third parties to offer additional services like demand response initiatives, or other state-based code programs).

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1. Identify if the program plans to provide whole-building aggregated data program collected for this program publicly or to implementation vendors.

No, whole property aggregated data will only be provided to implementation vendors.

Yes. Describe how data will be aggregated and anonymized and how it is intended to be published.

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### Eligibility, Oversight, and Enforcement of Third Parties

1. Confirm that the third-party entities will not have access to individual energy consumption data and will only use the whole-building aggregated data as approved for program purposes.

Yes

No. Describe the entities and purposes of their use of the data and how consent was obtained for these purposes.

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# Section A2. Opt-In: Direct Utility Data Provision

## Pathway Background

In this pathway, states work directly with utilities to collect energy consumption data based on a customized approach to transfer data so that data is made available to program implementers, contractors, and/or aggregators.

There are multiple ways that a state may work effectively with utilities located in their state including:

* Coordinate directly with utilities on multiple program aspects, including program implementation, braiding of program resources, and energy consumption sharing.
* Create data sharing agreements with utilities, including memorandum of understanding or other such agreement based on the abilities of utilities to transfer participating customer data for the program. States may want to consider creating financial incentives for utilities to balance the effort and time required to share the data and increase the benefits for customers from more detailed data access. [[12]](#footnote-13)
* If relevant, work with regulators to require utilities to provide data to the state program and also receive cost recovery for the effort required.

For individually-metered multifamily properties, states could work out a special arrangement with utilities to conduct the whole-building aggregation in order to meet the opt-in provisions. Additionally, utilities may support the states by providing Geographic Aggregation data for pre-participation targeting purposes, see [Section C](#SectionC).

Table . Opt-In: Utility Pathway Summary

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| Advantages | Utility provision of data is lower cost than some other pathways. This pathway allows utilities to control the costs of implementation. It requires customizable formats and protocols so that data can be tailored to the goals of the state, provided they meet minimum DOE Requirements. This pathway is easy for customers and avoids the need to monitor third parties on behalf of customers. |
| Challenges | One challenge with utility provision of data is that it requires states and utilities to collaborate to share data, which may be difficult given the number of utilities and existing relationships between entities in the state. Another challenge is lack of established protocols, which is exacerbated if a state has multiple utilities with which to work on the program. Data is unlikely to be provided in a consistent, standardized format, making it harder for third parties and government bodies to review or aggregate on a statewide basis. Third-party innovation may be minimized by the utilities’ control of the data. The level of detail or frequency is likely to be updated less frequently than other pathways. |
| Home Efficiency Rebates Program Consideration | For both Section 50121 (Measured and Modeled) programs, this pathway provides Evaluation/Implementation data. Note: For multifamily properties, the Modeled program allows exception in modeling because BPI-2400 applies only to single-family homes.  To support pre-participation targeting, states should also work with utilities to collect Geographic Aggregation data (See [Section C](#SectionC)). |

## Data Access Plan Template

*[If your state plans to use an opt-in utility data pathway, please answer the following questions]*

### Intro and Overview of Data Access in Your State

1. Confirm your state plans to collect energy consumption data directly from utilities for at least some program options. (If no, then please refer to the general overview and pathway sections to determine correct pathway and template for completion)

Yes

1. Identify the Home Efficiency Rebates Program(s) that your state plans to use this pathway and home type for:

Modeled, Single-family

Modeled, Multifamily

Measured, Single-family

Measured, Multifamily

1. Identify the utilities from which your state will collect energy consumption and billing data.

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1. Describe any existing program activities, platforms or agreements that are in place in your state that enable the collection of data directly from utilities.

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1. Provide an overview of your state program’s processes and entities that will gain consent, collect, transfer, and maintain the energy consumption data as provided by residents and owners. Examples of responses could include, but are not limited to:
   1. Consent will be requested of [*owners and/or residents*] and documented by [eligible parties e.g., *program staff, home auditors*] in the form of [*a participation agreement*].
   2. Energy consumption data will be requested from [*utilities*] and collected by [*this system, in this format*].
   3. Energy consumption data will be transferred from utilities via [*this secure protocol*] into the [*INSERT NAME*] secure system used by the [*program staff, state staff, other*].
   4. Energy consumption data will be maintained and stored in the [*INSERT NAME*] secure system and maintained by the [*program staff, state staff, other*].
   5. Individual energy consumption data will be provided to. [*only eligible parties*] in [*the following instances such as for conducting the program requirements*].
   6. Transfer to DOE: The [*System/Process*] will transfer data to DOE using the following protocols.

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### Security and Safety of Energy Consumption Data

1. Describe how your state will ensure that any data are transferred and maintained safely and securely, using established standards. Describe:

* Encryption methods for data transfers
* Protection of data collected and stored.
* Protocols in place for security guidelines and data classification.
* How the entity responsible for administering the program will notify a customer if there are data breaches or other security related events.

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### Consent, Notification, and Revocation Process

1. Confirm that all residents/owners will provide their consent for energy consumption data to be transferred to the state from their utility.

Yes

No. Describe the state’s alternative consent approach.

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### Data Details and Frequency

1. Indicate the timing of energy consumption data to be collected. If multiple options are selected, indicate those use cases:

Monthly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hourly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Daily\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Indicate the frequency for energy consumption data be collected by the program (i.e., when will data be available for the program).

At the time of program intake for each participant\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

At a set duration agreed to by the program and utility (please define duration) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

### Primary and Secondary Purpose

1. Please describe the primary purpose(s) of the energy consumption data.

* Implementation and reporting data for the program.
* Please describe any other primary purposes, if applicable (e.g., building benchmarking, emissions reductions etc.).

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1. Describe any secondary purposes[[13]](#footnote-14) of the energy consumption data and the entities that it will be provided to. (e.g., data will be provided to third parties to offer additional services like demand response initiatives, or other state-based programs).

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1. Identify if the program plans to Geographically Aggregate program data collected from utilities and provide it publicly.

No

Yes. Describe how data will be aggregated and anonymized and how it is intended to be published.

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### Eligibility, Oversight, and Enforcement of Third Parties

1. Describe the eligibility criteria for third parties to access energy consumption data collected from utilities (e.g., contractual agreement with the state or program implementer that requires data security and privacy).

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1. Confirm that the entities with access to energy consumption data will only use the data as approved for program purposes.

Yes

No. Describe the entities and purposes of their use of the data and how consent was obtained for these purposes.

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# Section A3. Opt-In: Residents/Owners

## Pathway Background

In this pathway, the program collects data from the homeowners, tenants, or building owners directly. The program would likely request copies of metered energy consumption bills, either in paper format or electronically directly from homeowners, tenants, or multifamily building owners. There may be other innovative ways for the program to access the data, such as a third-party access of energy consumption data of program participants.

For individually metered multifamily buildings, this data collection may be especially difficult, especially for properties with a large number of units. DOE recommends using the exception path for Home Efficiency RebatesModeled approach for these properties (See Section 3.2.4 in DOE’s Program Requirements[[14]](#footnote-15)).

Table . Opt-In: Owner Provision of Data or Access

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| Advantages | This pathway requires data to be collected onsite, and therefore it may have a lower cost for setup, including the protocols and agreements of previously described pathways. |
| Challenges | Data must be collected onsite, which is limited by data availability, may be time consuming, and requires a manual process for collecting and entering data, a step that is prone to user error. There is limited automation to increase efficiency over time, and new data requests require training of onsite auditors. |
| Home Efficiency Rebates Program Considerations | For Section 50121- Modeled programs: For single-family homes, calibration consistent with BPI-2400 allows for energy consumption data at a monthly data or annual level, which provides flexibility in collecting data from residents/owners.  For multifamily properties, the Modeled program allows exception in modeling because BPI-2400 applies only to single-family homes.  For Section 50121- Measured programs: Energy consumption data will need to be collected both prior to and one year after installation.  To support pre-participation targeting, states should attempt to work with utilities to collect Geographic Aggregation data (See Section C). |

## Data Access Plan Template

*[If your state plans to use an opt-in residents/owners pathway, please answer the following questions]*

### Intro and Overview of Data Access in Your State

1. Confirm your state plans to collect energy consumption data directly from residents/owners. (If no, then please refer to the general overview and pathway sections to determine correct pathway and template for completion)

Yes

1. Identify the Home Efficiency Rebates Program(s) that your state plans to use this pathway and home type for:

Modeled, Single-family

Modeled, Multifamily

Measured, Single-family

Measured, Multifamily

1. Describe any existing program activities, platforms or agreements that are in place in your state that enable the collection of data directly from owners.

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1. Provide an overview of your state program’s processes and entities that will collect, transfer, and maintain the energy consumption data as provided by residents and owners. Examples of responses could include, but are not limited to:
   1. Consent will be requested of [*owners and/or residents*] and documented by [eligible parties e.g., *program staff, home auditors*] in the form of [*a participation agreement*]
   2. Energy consumption data will be collected by [*program staff, home auditors*] in the form of [*paper bills, access to utility bills through electronic means*]
   3. Energy consumption data will be [*transferred to,* *uploaded*] into the [*INSERT NAME*] secure system used by the [*program staff, state staff, other*]
   4. Energy consumption data will be maintained and stored in the [*INSERT NAME*] secure system used by the [*program staff, state staff, other*].
   5. Individual energy consumption data will be provided to [*only eligible parties*] in [*the following instances such as for conducting the program requirements*]
   6. Transfer to DOE: The [*System/Process*] will transfer data to DOE using the following protocols.

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### Security and Safety of Energy Consumption Data

1. Describe how your state will ensure that any data are transferred and maintained safely and securely, using established standards. Describe:

* Encryption methods for data transfers.
* Protection of data collected and stored.
* Protocols in place for security guidelines and data classification.
* How the entity responsible for administering the program will notify a customer if there are data breaches or other security related events.

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### Consent, Notification, and Revocation Process

1. Confirm that all data will be collected from residents/owners with their consent.

Yes

No. Describe the state’s alternative consent approach.

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### Data Details and Frequency

1. Indicate the timing of energy consumption data to be collected. If multiple options are selected, indicate those use cases:

Monthly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Annual \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Indicate the frequency for energy consumption data be collected by the program (i.e., when will data be available for the program).

At the time of home audit\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12 months after program (likely for measured) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

### Primary and Secondary Purpose

1. Please describe the primary purpose(s) of the energy consumption data.

* Implementation and reporting data for the program.
* Please describe any other primary purposes, if applicable (e.g., building benchmarking, emissions reductions etc.).

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1. Describe any secondary purposes[[15]](#footnote-16) of the energy consumption data and the entities that it will be provided to (e.g., data will be provided to third parties to offer additional services like demand response initiatives, or other state-based programs).

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1. Identify if the program plans to Geographically Aggregate program data collected from residents/owners and provide it publicly.

No

Yes. Describe how data will be aggregated and anonymized and how it is intended to be published.

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### Eligibility, Oversight, and Enforcement of Third Parties

1. Describe the eligibility criteria for third parties to access energy consumption data (e.g., contractual agreement with the state or program implementer that requires data security and privacy).

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1. Confirm that the entities with access to energy consumption data will only use the data as approved for program purposes.

Yes

No. Describe the entities and purposes of their use of the data and how consent was obtained for these purposes.

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# Section B. Open Access and Opt-Out

## Pathway Overview

To use the open access or opt-out pathway, your state would likely need to have a law, requirement, or established system that utilities must provide energy consumption and billing data to third parties for all customers, without explicit customer consent. [[16]](#footnote-17)

The open access model for data sharing has the potential to provide valuable insights for third-party Implementers (i.e., both pre-participation targeting and program implementation data); however, DOE acknowledges that implementing this model requires regulatory and policy engagement and presents numerous concerns with customer privacy. Yet, because the open access model shares customer utility data with third parties without customer consent, the customer is generally unaware that their data is being shared.

In the opt-out pathway, households are automatically enrolled in the data sharing program, and their data will be shared with third parties (e.g., program implementers and contractors) unless they explicitly opt out. In this process, consumers must receive notice that their data will be shared. This approach places more responsibility on consumers to be aware of and manage their participation in data sharing programs. Generally, consumers who select to opt out from data provision must agree to provide their utility data for program implementation purposes to receive a rebate.

Although the opt-out pathway preserves customer choice, this pathway has even more platform requirements than open access because of the added complexity of delineating customer data and clearly notifying customers of their options prior to sharing data and maintaining that over time.

Both the open access and opt-out models require a sophisticated data sharing platform for effective implementation, typically requiring state law or regulation to guide or permit investment in such a design. DOE does not anticipate that many states currently have these capabilities. States may seek to develop these capabilities to gain the benefits of a fully designed platform; however, this process is time consuming and complex. States should consider this when determining if an open access path is the preferred choice to develop.

Table . Open Access Pathway Summary

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| Advantages | Once set up, open access provides easy data access for both pre-participation targeting and program implementation purposes on an ongoing basis, thereby reducing ad hoc requests and individualized agreements. It creates a robust database that will enable third-party innovation. No customer consent is required. |
| Challenges | Creating an open and secure platform for data transfer is challenging, especially for use by third parties, while simultaneously ensuring data is secure. A review process for third-party data access must be created and maintained. There may be high costs for utilities associated with setting up and maintaining the data transfer system. Customers may react negatively to having their data shared without permission. |
| Home Efficiency Rebates Program Considerations | For both Section 50121 (Measured and Modeled) programs, this pathway provides both pre-participation targeting data and Evaluation/Implementation data. |

Table . Opt-Out Pathway Summary

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| Advantages | Opt-out has similar strengths to open access, with the additional benefit that customers have the choice to opt out and prevent their data from being shared. |
| Challenges | Opt-out has similar challenges to open access with additional effort associated with notifying, tracking, and maintaining ongoing opt-out customers. |
| Home Efficiency Rebates Program Considerations | For both Section 50121 (Measured and Modeled) programs, this pathway provides both pre-participation targeting data and Evaluation/Implementation data. |

## Data Access Plan Template

*[If your state plans to use an open access or opt-out pathway, please answer the following questions]*

### Intro and Overview of Data Access in Your State

1. Confirm your state plans to collect energy consumption data via an open access or opt-out protocol (If no, then please refer to the general overview and pathway sections to determine correct pathway and template for completion)

Open access

Opt-out

1. Identify the Home Efficiency Rebates Program(s) that your state plans to use open access or opt-out for:

Modeled, Single-family

Modeled, Multifamily

Measured, Single-family

Measured, Multifamily

1. Identify if any utilities in your state are not included in your state’s open access or opt-out protocols. (Note: for utilities not covered by this protocol, your state may need to complete another pathway document if implementing 50121 in the territory)

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1. Describe the architecture of existing open access protocols that are in place in your state.

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1. Provide an overview of your state program’s processes and entities that will gain consent, collect, transfer, and maintain the energy consumption data as provided by residents and owners. Examples of responses could include, but are not limited to:
   1. Energy consumption data will be collected via the [*INSERT NAME*] platform.
   2. Energy consumption data will be transferred from the Utilities via [*this secure protocol*] into the [*INSERT NAME*] secure system used by the [*program staff, state staff, other*].
   3. Energy consumption data will be maintained and stored in the [*INSERT NAME*] secure system and maintained by the [*program staff, state staff, other*].
   4. Individual energy consumption data will be provided to [*only eligible parties*] in [*the following instances such as for conducting the program requirements*].
   5. Transfer to DOE: The [*System/Process*] will transfer data to DOE using the following protocols.

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### Security and Safety of Energy Consumption Data

1. Describe the entity that operates the data platform and the associated governance of decision-making around customer data.

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1. Describe the platform’s capabilities. Include the following information:

* What is the primary data source of energy consumption data?
* How does the platform securely transfer data from the source to the platform? (e.g., data requests and responses are made using secure HTTPS protocol and are authenticated via a two-way certificate exchange with the utility).
* How will data be collected, encrypted, and stored?
* Outline the protocols in place for security guidelines and data classification.
* Describe the process for monitoring the data for data breaches and other security events.
* Describe the process for notifying customers in the event of a data breach.

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### Consent, Notification, and Revocation Process

1. Describe customer awareness, if any, of their data being provided to the platform.

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1. Explain the implicit or explicit consent rights given to customers for sharing their data.

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1. Describe the process by which customers can or will “opt-out” of allowing their data to be shared, if applicable.

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1. Does the state allow customers to revoke their data being shared? If yes, describe the procedure for a customer to revoke previously granted authorization.

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1. If applicable, explain how the platform administers, tracks, and registers customer enrollment or unenrollment requests.

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1. If applicable, explain the frequency at which customers’ opt-in/opt-out status will be revisited (e.g., one time only, every three years, only upon request).

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1. If applicable, how will the state or administrator track customer requests to revoke their data being shared?

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1. Explain how the platform administers, tracks, and registers customer enrollment or unenrollment requests.

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### Data Details and Frequency

1. Does the state and the platform administrator have a contractual agreement in place regarding data accuracy, frequency, and detail levels?

Yes (Please share the details of that agreement)

No (Describe the data quality standards and practices).

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1. Indicate the timing of energy consumption data to be collected in the open access pathway. If multiple options are, indicate those use cases:

Monthly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hourly \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Daily\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other (specify) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe the frequency for energy consumption data to be available or to be shared on the [*INSERT NAME*] platform for the program (e.g., when will data be available for the program).

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### Primary and Secondary Purpose

1. What is the primary purpose(s) of the energy consumption data?

* Implementation and reporting data for the program
* Please describe the other primary purposes, if applicable (e.g., building benchmarking, emissions reductions etc.).

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1. If relevant, describe any secondary purposes[[17]](#footnote-18) of the energy consumption data and the entities that it will be provided to. (e.g., data will be provided to third parties to offer additional services like demand response initiatives, academic research, or other state-based programs)

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1. Identify if the program plans to Geographically Aggregate program data collected via open access and provide it publicly.

No

Yes. Describe how data will be aggregated and anonymized and how it is intended to be published.

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### Eligibility, Oversight, and Enforcement of Third Parties

1. Describe the eligibility criteria for third parties to access energy consumption data collected in the platform. (e.g., contractual agreement with the state or program implementer that requires data security and privacy)

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1. Explain the process and review how the state will ensure that third parties are using the data appropriately.

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1. Detail the process for policing bad actors, reviewing complaints, and enforcing program protocols against non-compliant third parties.

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1. Describe the process of revoking or temporarily suspending third party access for bad actors.

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# Section C. Geographically Aggregated Data for Pre-Participation Targeting Purposes

(Note: there is no data access plan or template required for geographic aggregation data; this information is included in above templates)

Collecting geographically aggregated energy consumption data may be very valuable for pre-participation targeting and outreach purposes, most likely with an opt-in pathway.[[18]](#footnote-19) This level of access protects individuals’ data while allowing third parties to make better recommendations to customers before they participate while protecting consumer privacy. This approach 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[[19]](#footnote-20).

The most likely source of data for this pathway is from utilities. Therefore, DOE recommends that states attempt to coordinate with utilities for geographically aggregated data, even if opt-in energy consumption data for program implementation purposes is not feasible.

The following geographic aggregation examples are provided for general awareness:

* **California** provides geographically based electric usage data. For example, PG&E offers aggregated energy data through its Open Data Portal, which includes energy consumption, renewable energy generation, and energy efficiency programs. [PG&E Open Data Portal](https://pge-energydatarequest.com/public_datasets)
* In **Colorado**, the Public Utilities Commission (PUC) requires utilities to provide aggregated energy data to the public through their community energy reports. [Colorado PUC Community Energy Reports](https://www.xcelenergy.com/community_energy_reports).
* The **Illinois Commerce Commission** approved a data sharing initiative, and due to that Commonwealth Edison (ComEd) offers an Anonymous Data Service that allows for the purchase of anonymized interval energy usage data by zip code within its Illinois service territory. The data is aggregated and separated by customer class, with individual customer identifiers removed. ComEd also provides access to aggregated energy data through its Energy Data Initiative platform. [ComEd Energy Data Initiative](https://www.energyusagedata.com/)
* In **Massachusetts**, MassSaveData offers a comprehensive platform for aggregated and anonymized energy data on a geographic basis, including data on residential and commercial energy consumption, energy efficiency program participation, and renewable energy generation. [Mass Save Data](https://www.masssavedata.com/)

For multifamily programs looking to aggregate energy consumption data within a property, please refer to [Section A1b](#SectionA1b). Opt-In: Aggregate Whole-Building Multifamily Data.

Table . Geographically Aggregated Data

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| Advantages | Aggregation allows states to protect customers’ data, while allowing third parties to target groups of customers with more detailed data and load shapes. This process balances pre-participation third-party access without creating concerns around getting pre-participation consent. The data shared by the utilities allow trends, comparison groups, and geographic pre-participation targeting. Further, this process can be done in alignment with other pathways. |
| Challenges | States must decide what type of data is available, such as geographic data, time-based data, or average use for multifamily building units. The process must be established, between states, utilities, and third parties, to develop the level of detail and share it. This data does not include program implementation data and therefore needs to be paired with another pathway. |
| Home Efficiency Rebates Program Considerations | Pre-participation targeting data only for Section 50121 (modeled and/or measured approach). Must be paired with another energy consumption data access pathway for program implementation purposes. |

1. 42 U.S.C. 18795(c)(5). [↑](#footnote-ref-2)
2. For more on the specific requirements for data collection, tracking, and reporting see the [Data And Tools Requirements Guide](https://www.energy.gov/sites/default/files/2023-10/ira-home-energy-rebates-data-and-tools-requirements-guide_10-13-2023.pdf), updated October 13, 2023. [↑](#footnote-ref-3)
3. In the case of a multifamily building, depending on the state, household consent may not be required if the data is anonymously aggregated at the building level. [↑](#footnote-ref-4)
4. Refer to the list included for examples of utilities that have committed to implementing Green Button: https://www.energy.gov/data/green-button [↑](#footnote-ref-5)
5. DOE notes that for whole multifamily buildings the Green Button Pathway may not be optimal especially in cases where individual residents are billed directly by the utility and the property owner is considered a “third party”. See Section A1b for Portfolio Manager pathway. [↑](#footnote-ref-6)
6. State energy offices and/or customers can check if their *Green Button Download My Data* file is compliant with the Green Button standard by using the DMD Validation Tool available here, [DMD Validation Tool - Green Button Alliance](https://dmdvalidator.greenbuttonalliance.org/). [↑](#footnote-ref-7)
7. Green Button is most effective for multifamily properties with central metering of all energy consumption or where residents of individually-metered units can provide consent (e.g., buildings with very few units) [↑](#footnote-ref-8)
8. Secondary purposes may include 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 may include targeted advertising for other energy equipment and sharing data with a third party for a service not included in the State program. [↑](#footnote-ref-9)
9. For more information, see EPA’s [interactive map](https://www.energystar.gov/buildings/owners_and_managers/existing_buildings/use_portfolio_manager/find_utilities_provide_data_benchmarking) of utilities offering streamlined access to energy data for benchmarking. [↑](#footnote-ref-10)
10. OAuth is a standard to allow secure authorization in a simple and standard method from web, mobile and desktop applications. [↑](#footnote-ref-11)
11. Secondary purposes may include 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 may include targeted advertising for other energy equipment and sharing data with a third party for a service not included in the State program. [↑](#footnote-ref-12)
12. DOE recommends that States reach out to utilities’ contacts in government affairs, energy efficiency, or retail procurement. Most retail procurement teams at utilities have experience providing usage data to third parties. [↑](#footnote-ref-13)
13. Secondary purposes may include 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 may include targeted advertising for other energy equipment and sharing data with a third party for a service not included in the State program. [↑](#footnote-ref-14)
14. [Home Energy Rebates Programs Requirements & Application Instructions](https://www.energy.gov/sites/default/files/2023-10/home-energy-rebate-programs-requirements-and-application-instructions_10-13-2023.pdf) [↑](#footnote-ref-15)
15. Secondary purposes may include 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 may include targeted advertising for other energy equipment and sharing data with a third party for a service not included in the State program. [↑](#footnote-ref-16)
16. California and New York are examples of states that might qualify for this pathway. California (E-4868), New York (Case 20-M-0082). [↑](#footnote-ref-17)
17. Secondary purposes may include 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 may include targeted advertising for other energy equipment and sharing data with a third party for a service not included in the State program. [↑](#footnote-ref-18)
18. Open access and opt-out are assumed to be pathways with robust participation with third parties and may not need aggregation, since the time and development of those models enables access to individual customer data in a safe and secure manner. [↑](#footnote-ref-19)
19. For example, many states have adopted a 15/15 standard where data can only be released if there are at least 15 customers and no one customer makes up more than 15 percent of the data. [↑](#footnote-ref-20)