STATE & COMMUNITY ENERGY PROGRAMS

IRA HOME ENERGY REBATES: DATA & TOOLS REQUIREMENTS GUIDE

VERSION 1.2

Published on May 2nd, 2024

This document, Version 1.2, replaces the document published on October 13, 2023.

Please note the following principal changes:

- The introduction has been revised for clarity. It includes more explicit information on different options for meeting requirements and highlights the timing for states to provide information required prior to program launch.
- The previously labeled "Parts" have been changed to "Sections" to be consistent with the Program Requirements document.
- Required Pre-Launch Information (Sections 2.1 and 3.1) must be submitted at least 60 days before program launch, and changes must be flagged at least 30 days in advance (previously unspecified).
- Required Rebate Transaction Data (Sections 2.2 and 3.2) incorporates information from the previous Parts 1D and 2D, respectively. For states not using the DOE/PNNL Rebate Tracker, this data must be submitted monthly (previously quarterly).
- Required Programmatic Data (Sections 2.3 and 3.3) must be reported on a monthly basis (previously quarterly).
- The previous Part 3 has been removed for simplification.
- The previous Part 5 has been reorganized into the new Section 4.0 and adds information about workflows, APIs, and data submission.
- Many of the data points previously required in the table in Part 1B have been moved to the new Section 5.0 Appendix A. Appendix A has been added to this document to ensure that consistent data is collected when doing Section 50121 assessments. Assessments requirements vary for modeled vs. measured savings projects. Unlike the data points required in the other portions of this document, assessment data must be transmitted via an HPXML/BuildingSync file

produced by home assessment software tools. Therefore, states will not be reporting assessment data as individual data points.

- The previous Appendix has been incorporated into the new Section 6.0 Appendix B and updates some information.
- The previous Part 4 has been incorporated into the new Section 7.0 Appendix C and adds a recommendation about linking data to the DOE/PNNL API.

Modifications adopted in this document are as follows and are highlighted in the text in yellow:

Version No.	Item No.	Description of Modification	Location(s)
1.2	1	Table in previous Part 1A • Removes "Additional Notes" column • Adds numbering column • Reorders and consolidates rows, some rows moved to new Table 2	Section 2.1, Table 1, pg. 3
	2	New Table 2 adds required Pre-Launch Data Details for Section 50121 if the state is planning on using the real-time API and coupon system provided by PNNL, including instructions that the information must be provided at least 60 days prior to the launch of their program.	Section 2.1, Table 2, pg. 4-5

	3	Table in previous Part 1B
		• Reorders and consolidates rows from previous table
		• Adds numbering column
		• Renames data categories for clarity
		• Adds:
		  o Row 4 (Claimant phone number)
		  o Row 5 (Homeowner email)
		  o Row 6 (Homeowner phone number)
		  o Row 7 (Applicant ID)
		  o Row 9 (Unique portfolio identifier)
		  o Row 10 (State attestation)
		  o Row 17 (Building address ID)
		  o Row 22 (Contractor name)
		  o Row 23 (Company name)
		  o Rows 28-37 (Safety Testing)
		  o Row 38 (Final Rebate Payout to Homeowner)
		  o Row 39 (Final Rebate Payout to Aggregator)
		  o Row 48 (Measured Energy Use)
		  o Rows 49-50 (Measured Savings)
			Section 2.2, Table 3, pg. 6-15

	4	◦ Row 51 (Home Assessment Data) ◦ Row 52 (Consumer Satisfaction) • Adds additional note to row 14 • Adds additional note to row 16 • Adds DOE reporting requirement to row 24 • Adds additional note to row 27 • Removes previous rows 5, 16, 17, 18, 19, 21-22, 24-27, 33, 41-44, 50-53	
	4	Table in previous Part 1C • Adds numbering column • Adds: ◦ Number of LMI multifamily projects (row 13) ◦ Rebate funding to LMI multifamily projects (row 18) ◦ Number of responses to required consumer satisfaction survey (row 22)	Section 2.3, Table 4, pg.16-18
	5	Table in previous Part 2A • Removes "Additional Information" column • Adds numbering column • Adds program implementer contact information (row 3) • Adds program launch timing (row 4) • Reorders and consolidates rows, some rows moved to new Table 6 • Consolidates funding allocation • Replaces "mini-assessment" with "limited assessment"	Section 3.1, Table 5, pg. 18-19
	6	New Table 6 adds required Pre-Launch Data Details for Section 50122 if the state is planning on using the real-time API and coupon system provided by PNNL, including instructions that the information must be provided at least 60 days prior to the launch of their program. Adds question about point of sale entities.	Section 3.1, Table 6, pg. 19
	7	Table in previous Part 2B • Reorders and consolidates rows from previous table	Section 3.2, Table 7, pg. 20-30

		• Adds numbering column
		• Renames data categories for clarity
		• Adds:
		  o Row 3 (Installation type)
		  o Row 5 (Claimant phone number)
		  o Row 6 (Homeowner email)
		  o Row 7 (Homeowner phone number)
		  o Row 8 (Applicant ID)
		  o Row 9 (State attestation)
		  o Row 27 (Contractor name)
		  o Row 28 (Company name)
		  o Rows 30-31 (Measure Information)
		  o Row 35 (Vendor ID)
		  o Row 43 (Proof of delivery)
		  o Rows 45-54 (Safety Testing)
		  o Row 55 (Consumer Satisfaction)
		• Adds additional notes to rows 18-19
		• Adds DOE reporting requirement to row 26
		• Adds additional options (model number or AHRI) to row 33 for purchased item identification
		• Adds additional note to row 44
		• Removes previous rows 7, 23-27, 30-31, 34, 40, 43, 47-51	

	8	Table in previous Part 2C
		• Adds numbering column
		• Adds:
		  o Number of LMI multifamily projects (row 13)
		  o Number of responses to required consumer satisfaction survey (row 20)
		• Revises LMI to be <80% AMI in rows 15 and 18
			Section 3.3, Table 8, pg. 31-32

	9	New Tables 9 and 10 add HPXML and BuildingSync data requirements for single- and multi-family Section 50121 rebates, respectively.	Section 5.1, Table 9, pg. 36-41 Section 5.2, Table 10, pg. 41-50
	10	Relocates upgrade component data required for Section 50122 (formerly in "Appendix") to new Table 11 in Section 6.0. Adds numbering column and required upgrade components for – • Envelope Improvements – Wall Insulation (row 3) • Envelope Improvements – Ceiling Insulation (row 6) • Envelope Improvements – Duct Insulation (rows 7-8) • Envelope Improvements – Floor Insulation Above Conditioned Space (rows 9-12) • Envelope Improvements – Foundation Insulation (rows 13-15) • Envelope Improvements – Air Sealing (row 19) • HVAC – Ventilation (rows 29-30)	Section 6.0, Table 11, pg. 51-61
	11	Adds limited assessment input requirements for Section 50122 HVAC	Section 6.0, Table 12, pg. 61-62

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Tables

1.0 Introduction

This guide delineates the data and information that states must collect, retain, and/or report to the U.S. Department of Energy (DOE) prior to launch as well as throughout the course of the two residential rebate programs authorized by Sections 50121 and 50122 of the Inflation Reduction Act (IRA) of 2022. It provides details related to requirements noted in the DOE Program Requirements & Application Instructions (Program Requirements)[1] for the IRA Home Energy Rebates Program. Relevant portion(s) of the Program Requirements are listed as references in footnotes.[2]

The guide is organized as follows:

- **Sections 2.0 and 3.0 describe data collection, tracking, and reporting requirements** for the Home Efficiency Rebates (Section 50121) and the Home Electrification and Appliance Rebates (Section 50122), respectively.[3] Each section is broken out into three parts:
    1. Questions that states must answer at least 60 days prior to program launch
    2. Data requirements associated with individual rebate transactions[4]
    3. Data requirements associated with overall rebate programs[5]
- **Section 4.0 introduces the DOE/Pacific Northwest National Laboratory (PNNL) workflows and application programming interfaces (APIs).**
    - States are required to either use the DOE/PNNL workflows OR receive DOE approval of alternative workflows submitted at least 60 days prior to launch.

[1] Program Requirements can be accessed at: https://www.energy.gov/scep/articles/home-energy-rebate-programs-requirements-and-application-instructions
[2] DOE/PNNL expect that clarifications and revisions will be needed to address questions and comments that arise as states and implementers begin to design and launch their programs. Once these issues are resolved, DOE/PNNL will strive to keep changes and updates to a minimum. Throughout the course of the rebates, DOE/PNNL will alert states prior to making any changes to this document, workflows, or the APIs and provide appropriate lead time for states to make any required changes (unless there's a critical system problem that needs to be fixed immediately).
[3] While this guide breaks out requirements for each of the two rebate programs, some states may elect to build one system to implement both types of rebate programs.
[4] See *Program Requirements*: Sections 3.1.2; 3.1.3; 3.1.5; 3.2.2; 3.2.4; 4.1.3; 4.1.5; 4.1.6; 4.2.4
[5] See *Program Requirements*: Sections 3.1.6.2; 4.1.7.1

    - States are required to submit rebate transaction-level data via the API or a DOE/PNNL standardized spreadsheet. States that use the DOE/PNNL workflows will fulfill this requirement in real time. States that use their own workflows must submit all transaction data for the prior month on the first of each month.
- **Appendices A and B provide requirements for data collection, documentation, and quality installation** for Sections 50121 & 50122 rebate projects, respectively.[6]
- **Appendix C is intended to serve as a reference checklist** of the primary functions required to carry out the rebate programs.

1.1 Meeting the Data & Tool Requirements

In meeting the reporting requirements outlined in this guide, states must adhere to the data security requirements described in the Program Requirements. While not all data points must be reported to DOE, DOE may request, pursuant to the applicable privacy rules, any data elements that states must retain for the purposes of audits or other needs. All requirements are consistent with and will be included on the Federal Assistance Reporting Checklist (FARC) as part of the award package.

1.2 Additional Information & Assistance

The DOE/PNNL team is committed to working with states and their program implementers to ensure that data collection, reporting, and tracking – as well as rebate processing – are simple and effective.

If you have any questions about the content in this document, please feel free to reach out to the data and tools team at RebateTools@pnnl.gov.

[6] A state's program design should incorporate quality assurance and enforcement mechanisms to verify the quality of contractor work. States are encouraged to develop methods that efficiently but effectively use resources. Some examples include using less highly trained personnel (e.g., technical college or recent high school graduates) to carry out basic quality review (e.g., checking that all vents are working and connected to ducts); or, conducting more frequent in person inspections for certain types of projects (e.g., those that include HVAC, those completed by new contractors or by contractors that haven't demonstrated consistently high quality work, those completed in low-income homes and/or with greater levels of public investment).

2.0 Home Efficiency Rebates (Section 50121)

2.1 Section 50121 Rebates: Pre-Launch Information (Required)

DOE requires pre-launch information to understand how PNNL's IT team will need to engage with the state and/or its implementer. States can provide this information in any format; however, DOE/PNNL is providing a standardized spreadsheet in the section labeled "Pre-Launch Data Details" on https://www.pnnl.gov/projects/rebate-tools/pre-program-launch.

States must:

- Provide all of the following information to their project officer at least 60 days BEFORE launching their Section 50121 Program.
- Notify the DOE/PNNL team at least 30 days prior to making any changes in relevant program designations (e.g., low-income allocations, rebate amounts) over the course of implementing the rebate programs, so that the system can be updated accordingly.

Table 1: Pre-Launch Data Details for Section 50121

	Pre-Launch Data Details
1	Anticipated program launch date (enter in mm/dd/yy)
2	Which implementers will you be working with to implement your IRA rebates?
3	Please provide contact information for those within that company that should have access to the DOE/PNNL APIs and/or state dashboard.
4	Does the state plan to allow the modeled savings approach at time of program launch? (Yes / No)
5	Does the state plan to offer the measured savings approach at time of program launch? (Yes / No)

If the state is planning on using the real-time API and coupon system provided by PNNL, then they must also provide the following information at least 60 days prior to the launch of their program.

Table 2: Pre-Launch Data Details for Section 50121 if using the Real-Time API Coupon System Provided by PNNL

	Pre-Launch Data Details
1	How much funding does the state want to allocate to the Section 50121 rebates?
2	If offering both modeled and measured savings approaches, does the state want to designate percentage allocations for the two methods? (Yes / No)
3	If yes, what percentage for modeled?
4	If yes, what percentage for measured?
5	Does the state want to allocate funds in any other way besides how the funds are allocated in the Program Requirements[7] (e.g., setting higher minimums for low-income, low-income multifamily; setting minimums for overall multifamily, etc.)?
6	If offering *modeled* approach: For *modeled* savings approach projects, what amount of time does the state plan to allow a rebate reservation to be active for single-family buildings? Enter time period (e.g., 1 month, 6 months, 1 year)
7	If offering *modeled* approach: For *modeled* savings approach projects, what amount of time does the state plan to allow a rebate reservation to be active for multifamily buildings (where more than one unit is being updated)? Enter time period (e.g., 1 month, 6 months, 1 year, 2 years)
8	For *measured* savings approach projects, what amount of time[8] does the state plan to allow a rebate reservation to be active for single-family buildings? Enter time period (e.g., 1 month, 6 months, 15 months, 18 months, 2 years)
9	For *measured* savings approach projects, what amount of time[9] does the state plan to allow a *rebate reservation* to be active for multifamily buildings (where more than one unit is being updated)? Enter time period (e.g., 1 month, 6 months, 15 months, 18 months, 2 years)

[7] Refer to Section 7.0 of Program Requirements & Application Instructions-Appendix A: Required Allocations. Table 13. Home Energy Performance-Based, Whole-House Rebate Allocations (50121)

[8] The reason this is more than one year is because for the measured path, the rebate cannot be redeemed prior to one year after the project has been completed, so that the "after" utility bills can be collected and uploaded.

[9] Refer to Section 7.0 of Program Requirements & Application Instructions-Appendix A: Required Allocations. Table 13. Home Energy Performance-Based, Whole-House Rebate Allocations (50121)

	Pre-Launch Data Details
10	For *measured* projects in single-family buildings, will the state place a cap or limit on the rebate amount if it exceeds estimated savings? If so, what amount (e.g., 120% of estimated savings)? Note that the coupon tracking system will be set up to reserve the level designated by the state.
11	For *measured* projects in multifamily buildings, will the state place a cap or limit on the rebate amount if it exceeds estimated savings? If so, what amount (e.g., 120% of estimated savings)? Note that the coupon tracking system will be set up to reserve the level designated by the state.
12	For *measured* projects, please confirm if the state will be using the payment rates as outlined in Table 3 of the Program Requirement & Application Instructions, or proposing to use a different rebate amount?[10]
13	Are you using PNNL Quality Install (QI) Tool for Quality Assurance (QA) requirement listed in Table 3 below? (Yes / No) If not using PNNL QI tool, provide details to DOE on the process for how the QA required elements will be collected and submitted.

2.2 Section 50121 Rebates: Rebate Transaction Data Collection & Reporting (Required)

The table below lists all the data that is required to be collected by the state or a third party for each rebate transaction associated with the Home Efficiency Rebates.

- All the following data elements must be collected and retained by the state or its implementer.
- Some of the following data elements must ALSO be reported to DOE through the API or a DOE/PNNL standardized spreadsheet. These are marked with an X in the column entitled "Required to Report to DOE".
- Unless otherwise noted, a state can elect to share any of the following data elements with DOE via the Main API or a DOE/PNNL standardized spreadsheet.
- States need to refer to the API documentation defined in a living document and located on this webpage: https://www.pnnl.gov/projects/rebate-tools.

[10] Different rebate amounts must be proposed in Narrative Document and are subject to DOE approval

Methods of Reporting:

- For states that elect to use the DOE/PNNL Rebate Tracking System, the DOE will automatically receive this data via the DOE/PNNL Main API at the time of each transaction.
- For states that elect NOT to use the DOE/PNNL Rebate Tracker, states must submit this data monthly (on the last day of the month) via the DOE/PNNL Main API or a DOE/PNNL standardized spreadsheet.

Any data components not designated as "Report to DOE" must be retained and provided to DOE upon request.

Table 3: Required Transaction Data Components for Section 50121

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
1	Initiate Rebate Request	Rebate type[12]	• Modeled savings • Measured savings	X	
2	Initiate Rebate Request	Claimant type	• Homeowner • Multifamily building owner • Contractor • Aggregator • Other	X	
3	Initiate Rebate Request	Claimant email			Do NOT share this data point with DOE.
4	Initiate Rebate Request	Claimant phone number			Do NOT share this data point with DOE.

[11] Data categories listed refer to components of the workflows listed in Section 4.0 of this document.
[12] If a state is offering both Section 50121 and 50122 rebates, then this question could be part of a combined user interface and the additional option would be the electrification rebates.

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
5	Initiate Rebate Request	Homeowner email (if claimant is not the building owner)			Do NOT share this data point with DOE.
6	Initiate Rebate Request	Homeowner phone number (if claimant is not the building owner)			Do NOT share this data point with DOE.
7	Initiate Rebate Request	Applicant ID		X	PNNL will provide a separate API which will create unique applicant identifier. The Applicant ID is used for the duration of the rebate processing, tracking, and reporting.
8	Initiate Rebate Request	Unique project identifier		X	
9	Initiate Rebate Request	Unique portfolio identifier (if applicable)		X	For measured projects that are submitted as part of a portfolio.
10	Initiate Rebate Request	State attestation	Yes / No (or Checkbox)	X	The state attests that 'we have required proof of identify, proof of ownership, and proof of income for this rebate'
11	Household Eligibility	Methods used to establish income qualification	• Link to IRS 1040 request form • List of Categorical Eligibility Programs • Pay stubs • Other		Only for applicants requesting income-qualifying rebate levels. See list of categorically eligible programs here: https://www.energy.gov/scep/articles/ira-50121-50122-home-energy-rebates-categorical-eligibility-list.

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
12	Household Eligibility	Number of people in household			Only for applicants requesting income-qualifying rebate levels
13	Household Eligibility	Income bucket	• <80% AMI • ≥80% AMI	X	DOE/PNNL's Address API allows programs to compare a household's income with up-to-date AMI levels corresponding to address & occupancy.[13] States are encouraged to use this API. If they choose to use anything else, they need to get approval from DOE project officer. Only for applicants requesting income-qualifying rebate levels.
14	Household Eligibility	Disadvantaged community	Yes / No	X	If the state uses the DOE map (CEJST) for designating Disadvantaged Communities, this additional data field is optional. If the state uses a different method for designating Disadvantaged Communities, the state must provide their map with designated disadvantaged communities to DOE/PNNL and/or include this data field separately in their data collection and reporting.
15	Household Eligibility	New or existing construction	New / Existing	X	

[13] Address API is provided on https://www.pnnl.gov/projects/rebate-tools

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
16	Household Eligibility	Building address			While the address field appears to a user to be in the same API as the rest of the rebate information, the address data point actually gets sent to a separate "address API" on a separate server than the "main API" and does not get sent to DOE.
17	Household Eligibility	Building address ID		X	Address must be entered in the separate Address API, which will create the unique address identifier for the Main API. The Address ID is used for the duration of the rebate processing, tracking, and reporting.
18	Household Eligibility	Building type	• Detached Single Family • Attached Single Family • Manufactured Home • Multifamily In-Unit • Central Multifamily	X	
19	Household Eligibility	If MF, number of units in building		X	
20	Household Eligibility	If MF, percent of units that meet <80% AMI bucket	Between 0 and 100%	X	
21	Household Eligibility	Unique identifier(s) for utility account(s)			
22	Contractor Eligibility	Contractor name	First and last name of contractor	X	

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
23	Contractor Eligibility	Company name (if different from contractor name)		X	
24	Contractor Eligibility	Is contractor eligible?	Yes / No	X	
25	Measure Information	Home component(s) to be upgraded (check all that apply)	Wall insulation, ceiling insulation, duct insulation, floor/foundation insulation, window replacement, window attachment, air sealing, duct sealing, water heater, heating equipment, cooling equipment, ventilation, appliance	X	
26	Measure Information	Current rebate request amount			Not required for spreadsheet
27	Quality Assurance	(1) Proof of quality installation and installation at designated address at time of project completion. (2) Geo-tagged and time stamped quality installation photos of all home components that were upgraded.		X	DOE/PNNL tool https://www.pnnl.gov/projects/quality-install-tool is recommended. If not using PNNL QI tool, provide details to DOE on the process for how the QA required elements will be collected and submitted within 60 days of program launch
28	Safety Testing	Does the venting test pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit.

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
29	Safety Testing	Does the spillage test(s) pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit.
30	Safety Testing	Does gas leak detection test pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit
31	Safety Testing	Does the ambient CO test pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit
32	Safety Testing	Does the undiluted CO test pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit
33	Safety Testing	Are there signs of mold or moisture in or outside the home?	Yes / No	X	Contractor should not proceed with energy efficiency measures if there are signs of mold or moisture.
34	Safety Testing	What is the roof condition?	Good / Potential issues	X	
35	Safety Testing	What is the drainage system condition?	Good / Potential issues	X	
36	Safety Testing	Has an ASHRAE 62.2 calculation been performed pre- and post-retrofit to ensure proper indoor air quality?	Yes / No	X	
37	Safety Testing	Confirm that answers to questions 28-36 have been disclosed to the homeowner	Yes / No	X	

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
38	Total Rebate Payout for the project	Total amount of rebate payout		X	This is the total rebate amount that was paid by the state to the claimant for this project
39	Final Rebate Payout to the Household	Amount of rebate deducted or paid to the household		X	This is the amount of money that the homeowner received for the rebate for modeled or measured; It maybe the same as the Total Rebate Payout if there is no aggregator involved
40	Final Rebate Payout to Aggregator	Amount of rebate paid to aggregator[14]		X	This is the amount of money that the aggregator received for the rebate. This field is only for measured projects using aggregators.
41	Project Cost	Equipment & materials		X	
42	Project Cost	Installation costs		X	
43	Project Completion	Project completion date		X	
44	Project Invoice	Project invoices			
45	Building Owner Signature	Signature or electronic signature confirming that the improvements were made at the address on the coupon			

[14] For measured projects, contractors can act as aggregators.

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
46	Modeled Energy Use	BPI 2400 compliant, DOE approved software used		X	The National Renewable Energy Laboratory is developing a methodology to review energy modeling software for BPI 2400 compliance. A list of approved software will be provided on https://www.pnnl.gov/projects/rebate-tools when it is available.
47	Modeled or Measured Energy Use	Total site (modeled or measured) kWh equivalent[15] before retrofit energy use		X	
48	Modeled or Measured Energy Use	Total site estimated kWh equivalent after retrofit energy use		X	
49	Measured Energy Use	Total site actual kWh equivalent after retrofit energy use		X	
50	Measured Energy Savings	Software used to estimate energy savings		X	
51	Measured Energy Savings	Output files from open-source advanced M&V software as approved by DOE		X	Files must be submitted in .csv format

[15] KWh equivalent is a metric that reflects the energy savings of all fuels in the project using the energy conversion of non-electric fuels to kWh on a BTU-equivalent basis as defined in section 4.3.2 of BPI 2400-2015. See section 3.2.4.2 of the Program Requirements and Application Instruction documents for how to calculate kWh equivalent.

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
52	Home Assessment Data	HPXML file (single family)/BuildingSync file (multifamily)	See Appendix A – Section 50121 HPXML and BuildingSync Field Requirements	X	See Appendix A – Section 50121 HPXML and BuildingSync Field Requirements
53	Consumer Satisfaction	Per Appendix B of the Program Requirements and Application Instructions document, states must ask consumers the following questions as part of a post-rebate project survey. On a scale of 1 to 5: Strongly Disagree = 1, Strongly Agree = 5, (include "Don't Know" and "Not Applicable)" • It was easy to understand the rebate requirements and provide the needed information • It was easy to find a contractor/retailer who understood how to process the rebate • The contractor/retailer provided a high-quality of service			States can include additional questions, but at minimum must include these.

	Data Category[11]	Specific Data Element	Suggested Drop-Down Options & Other Information	Required to Report to DOE	Additional Notes
		• The rebate was a major reason for my purchase • My new efficiency upgrades perform well • My home is more comfortable than it was before the new efficiency upgrades • My energy bills are lower since the new efficiency upgrades • Overall, I am satisfied with my experience with the [Rebate name] program • I would recommend this program to a friend or family member who could use it • I plan to do more to save energy in my home because of my experience with this program			

2.3 Section 50121 Rebates: Programmatic Data Tracking & Reporting (Required)

The following programmatic data must be tracked by States and/or a designee and submitted on a monthly basis through the DOE PAGE system.

States can use DOE/PNNL-provided admin access to its centralized rebate database to download information required for any fields noted with an "X".

Data in the DOE/PNNL central rebate database will be:

- updated live for those states that use the DOE-provided workflows; and,
- updated monthly for those states that submit the data required in Section 2.2 via the Main API or DOE/PNNL standardized spreadsheet.

States can use the DOE/PNNL rebate tracking database to assemble this information via DOE-provided admin access where noted in the right column.

Table 4: Required Program Data Tracking for Section 50121

	Data Element	Details if Applicable	Can be Downloaded from DOE/PNNL rebate tracking Database
1	Total administrative Spend		
2	Other funds leveraged?	Yes / No	
3	Type/Source of other funds (if applicable)		
4	Amount of leveraged funds		
5	Number of $200 Installer Bonuses		
6	Other project-related costs		
7	List of qualified contractors	Provide a link to a live list that the state will keep updated	

	Data Element	Details if Applicable	Can be Downloaded from DOE/PNNL rebate tracking Database
8	Rebate funds allocated		X
9	Number of homes receiving rebates		X
10	Number of projects by LMI		X
11	Number of projects by DAC		X
12	Number of single-family projects		X
13	Number of LMI multifamily projects		X
14	Number of multifamily projects		X
15	Rebate funding to LMI households		X
16	Rebate funding to DAC households		X
17	Rebate funding to single family projects		X
18	Rebate funding to LMI multifamily projects		X
19	Rebate funding to multifamily projects		X
20	Portfolio energy savings (modeled only)		X
21	Portfolio energy savings (measured only)		X

	Data Element	Details if Applicable	Can be Downloaded from DOE/PNNL rebate tracking Database
22	Number of responses to required consumer satisfaction survey	See Appendix B of DOE Program Requirements for more information.	

These will be collected as part of the state's monthly progress reporting as required in the FARC (Financial Assistance Reporting Checklist).

3.0 Home Electrification & Appliances Rebates (Section 50122)

3.1 Section 50122 Rebates: Pre-Launch Information (Required)

DOE requires pre-launch information to understand how PNNL's IT team will need to engage with the state and/or its implementer. States can provide this information in any format; however, DOE/PNNL is providing a standardized spreadsheet in the section labeled "Pre-Launch Data Details" on https://www.pnnl.gov/projects/rebate-tools/pre-program-launch.

States must:

- Provide all of the following information to their project officer at least 60 days BEFORE launching their Section 50122 Program.
- Notify the DOE/PNNL team at least 30 days prior to making any changes in relevant program designations (e.g., low-income allocations, rebate amounts) over the course of implementing the rebate programs, so that the system can be updated accordingly.

Table 5: Pre-Launch Data Details for Section 50122

	Pre-Launch Data Details
1	Anticipated program launch date (enter in mm/dd/yy)
2	Which implementers will you be working with to implement your IRA rebates?

	Pre-Launch Data Details
3	Please provide contact information for those within that company that should have access to the DOE/PNNL APIs and/or state dashboard.
4	Does the state plan to allow Section 50122 rebates approach at time of program launch? (Yes / No)
5	Refer to Program Requirements Section 7.0 Appendix A: Required Allocations. Table 14. High Efficiency Electric Home Rebate Allocations (50122) Does the state want to allocate funds in any other way besides how the funds are allocated in the table (e.g., setting higher minimums for low-income, low-income multifamily; setting minimums for overall multifamily; setting minimums or maximums for specific product categories, rental properties, etc.)?
6	What is the maximum amount that the state will offer for each electrification rebate in multifamily buildings? Please provide additional info on additional restrictions if applicable
7	In addition to requiring limited home assessments (i.e., mini-assessments) for heating & cooling projects, will the state require limited assessments for other Section 50122 projects? If yes, list all rebate-covered product types for which the state will require limited assessments?
8	Please provide the initial list of vendors that the states will pay.

If the state is planning on using the real-time API and coupon system provided by PNNL, then they must also provide the following information at least 60 days prior to the launch of their program.

Table 6: Pre-Launch Data Details for Section 50122 if using the Real-Time API Coupon System Provided by PNNL

	Pre-Launch Data Details
1	How much funding does the state want to allocate to the Section 50122 rebates?
2	How long does your state plan to allow a coupon to remain viable after rebate request is made (e.g.,, expiration date of 30 days, 45 days, etc.)?

3.2 Section 50122 Rebates: Rebate Transaction Data Collection & Reporting (Required)

The table below lists all the data that is required to be collected by the state or a third party for each rebate transaction associated with the Section 50122 rebates.

- All the following data elements must be collected and retained by the state or its implementer.
- Some of the following data elements must ALSO be reported to DOE.
- Note that a state can elect to share any of the following data elements with DOE via the Main API or DOE/PNNL standardized spreadsheet unless otherwise noted.
- States need to refer to the API documentation defined in a living document and located on this webpage: https://www.pnnl.gov/projects/rebate-tools.

Methods of Reporting:

- For states that elect to use the DOE/PNNL Rebate Tracking System, DOE will automatically receive this data via the DOE/PNNL Main API at the time of each transaction.
- For states that elect NOT to use the DOE/PNNL Rebate Tracking System, states must submit this data monthly (on the last day of the month) via the DOE/PNNL Main API or a DOE/PNNL standardized spreadsheet.

Any data components not designated as "Report to DOE" must be retained and provided to DOE upon request.

Table 7: Required Transaction Data Components for Section 50122

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
1	Initiate Rebate Request	Rebate type[16]	• Electrification	X	
2	Initiate Rebate Request	Claimant type	• Homeowner • Multifamily Building Owner • Contractor • Tenant • Other	X	

[16] If a state is offering both Section 50121 and 50122 rebates, then this question could be part of a combined user interface and the additional option would be the electrification rebates.

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
3	Initiate Rebate Request	Installation type	• Do-It-Yourself (DIY) • Contractor installed	X	
4	Initiate Rebate Request	Claimant email			
5	Initiate Rebate Request	Claimant phone number			Do NOT share this data point with DOE.
6	Initiate Rebate Request	Homeowner email (if claimant is not the building owner)			Do NOT share this data point with DOE.
7	Initiate Rebate Request	Homeowner phone number (if claimant is not the building owner)			Do NOT share this data point with DOE.
8	Initiate Rebate Request	Applicant ID		X	PNNL will provide a separate API which will create unique applicant identifier. The Applicant ID is used for the duration of the rebate processing, tracking, and reporting.
9	Initiate Rebate Request	State attestation	Yes / No (or Checkbox)	X	The state attests that 'we have required proof of identify, proof of ownership, and proof of income for this rebate.
10	Initiate Rebate Request	Unique project identifier		X	Information regarding creation of unique project ID will be provided in the Main API documentation and the PNNL web page (pnnl.gov/projects/rebate-tools)

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
11	Occupant Basic Info	Permission to share energy data with State and DOE for evaluation purposes		X	
12	Occupant Basic Info	Owner or renter-occupied			
13	Household Eligibility	Methods used to establish income qualifications	• 1040 Form • List of Categorical Eligibility Programs • Pay stubs • Other		See list of categorically eligible programs here: https://www.energy.gov/scep/articles/ira-50121-50122-home-energy-rebates-categorical-eligibility-list
14	Household Eligibility	Disadvantaged community	Yes / No	X	If the state uses the DOE map (CEJST) for designating Disadvantaged Communities, this additional data field is optional. If the state uses a different method for designating Disadvantaged Communities, the state must provide their map with designated disadvantaged communities to DOE/PNNL and/or include this data field separately in their data collection and reporting.
15	Household Eligibility	New or existing construction	New / Existing	X	
16	Household Eligibility	Number of people in household			See Address API
17	Household Eligibility	Income bucket	• <80% • 80% AMI ≤ X < 150% AMI	X	See Address API

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
18	Household Eligibility	Building address			While the address field appears to a user to be in the same API as the rest of the rebate information, the address data point actually gets sent to a separate "address API" on a separate server than the "main API" and does not get sent to DOE.
19	Household Eligibility	Unique address ID		X	Address must be entered in the separate Address API, which will create the unique address identifier for the Main API. The Address ID is used for the duration of the rebate processing, tracking, and reporting.
20	Household Eligibility	Building type for the project	• Detached Single Family • Attached Single Family • Manufactured Home • Multifamily In-Unit • Multifamily In-Unit (part of whole building project) • Central Multifamily	X	
21	Household Eligibility	If MF, number of units in building		X	
22	Household Eligibility	If entire MF building, what percent of units are in <80% AMI bucket or are in the ≥80% AMI and <150% AMI bucket?	Between 0 and 100% for each bucket	X	

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
23	Household Eligibility	If single unit in MF building, what's the income bucket of tenant in that unit?	• <80% AMI • ≥80% AMI and <150% AMI	X	
24	Household Eligibility	If single unit in MF building, what's the unit number?		X	
25	Household Eligibility	Prior IRA rebated amounts	7 digit maximum		
26	Contractor Eligibility (If applicable)	Is contractor eligible?	Yes / No	X	Only applicable for HVAC, electrical wiring, electrical load service and air sealing projects
27	Contractor Information	Contractor name	First and last name of contractor	X	
28	Contractor Information	Company name (if different from contractor name)		X	

29	Measure Information	Upgrade type	• Envelope improvements
			  o Wall insulation
			  o Ceiling insulation
			  o Duct insulation
			  o Floor insulation above unconditioned space
			  o Floor insulation above conditioned space
			  o Foundation insulation
			  o Air sealing
			  o Duct sealing
				X	

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
			• Electric load service center • Electric wiring • Heat pump water heater • Heat pump (HVAC) • Ventilation • Heat Pump clothes dryer • Electric stove/cooktop/oven/range		
30	Measure Information	If upgrade type is "envelope improvements" or "heat pump (HVAC)", what is the conditioned floor area of the home or unit?		X	
31	Measure Information	If upgrade type is "heat pump water heater" or "heat pump dryer", how many bedrooms are in the home or unit?		X	
32	Measure Information	Original and upgrade component details	See Appendix B – Section 50122 Components	X	See Appendix B – Section 50122 Components
33	Measure Information	Purchased item universal product code(s) (UPC) OR model number OR AHRI reference number		X	For heat pump measures, only model number(s) or AHRI number will be accepted.

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
34	Retailer or Distributor	Vendor name (if applicable)		X	The system can list any vendor that has a business license number.
35	Retailer or Distributor this specific rebate transaction applies to (if applicable)	Vendor ID			Vendor ID is only for states and vendors who are connected to the PNNL API for instant access to their state's rebate tracking system. Vendor ID is "N/A" if vendor is not connected to the PNNL API. States will approve vendors in their state. Vendor ID will be determined by PNNL.
36	Rebate Redemption at Point of Material or Equipment Purchase	Amount of rebate deducted upon material purchase		X	Only applicable if coupon used at point of sale of equipment/materials
37	Rebate Redemption at Point of Material or Equipment Purchase	Purchase date		X	Only applicable if coupon used at point of sale of equipment/materials Required for each reservation
38	Rebate Redemption at Point of Material or Equipment Purchase	Purchased item(s) description as seen on receipt or invoice		X	Required for each reservation Required if no UPC
39	Rebate Redemption at Point of Material or Equipment Purchase	Equipment and materials cost		X	Only applicable if coupon used at point of sale of equipment/materials Required for each reservation

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
40	Rebate Redemption at Point of Installation	Project invoice			If rebate is used at point of installation
41	Rebate Redemption at Point of Installation	Equipment and materials cost		X	If rebate is used at point of installation
42	Rebate Redemption at Point of Installation	Installation costs		X	If rebate is used at point of installation
43	Quality Assurance – Retailer Delivery ONLY	Proof of delivery			If item(s) are delivered but not installed by a retailer and photos are collected as part of a retailer delivery service, the photos should be sent to the state and/or implementer in order to document the delivery to that specific address
44	Quality Assurance – Contractor Install	Proof of quality installation and installation at designated address (to be submitted by the contractor for installations)		X[17]	DOE/PNNL tool https://www.pnnl.gov/projects/quality-install-tool is recommended If not using PNNL QI tool, provide details to DOE on the process for how the QA required elements will be collected and submitted within 60 days of program launch
45	Safety Testing	Does the venting test pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit.

[17] Except DIY measures. Everything except heating and cooling/HVAC, electrical wiring, electrical load service, and air sealing *can* be DIY, however, if it is installed by a contractor, proof of quality installation is required.

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
46	Safety Testing	Does the spillage test(s) pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit.
47	Safety Testing	Does the gas leak detection test pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit
48	Safety Testing	Does the ambient CO test pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit
49	Safety Testing	Does the undiluted CO test pass?	Passed / Failed / Warning / N/A	X	Testing is only required if the home has one or more combustion appliances post-retrofit
50	Safety Testing	Are there signs of mold or moisture in or outside the home?	Yes / No	X	Contractor should not proceed with energy efficiency measures if there are signs of mold or moisture.
51	Safety Testing	What is the roof condition?	Good / Potential issues	X	
52	Safety Testing	What is the drainage system condition?	Good / Potential issues	X	
53	Safety Testing	Has an ASHRAE 62.2 calculation been performed pre- and post-retrofit to ensure proper indoor air quality?	Yes / No	X	
54	Safety Testing	Confirm that answers to questions 46-54 have been disclosed to the homeowner.	Yes / No	X	

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
55	Consumer Satisfaction	Per Appendix B of the Program Requirements and Application Instructions document, states must ask consumers the following questions as part of a post-rebate project survey. On a scale of 1 to 5: Strongly Disagree = 1, Strongly Agree = 5, (include "Don't Know" and "Not Applicable)" • It was easy to understand the rebate requirements and provide the needed information • It was easy to find a contractor/retailer who understood how to process the rebate • The contractor/retailer provided a high-quality of service • The rebate was a major reason for my purchase • My new efficiency upgrades perform well			States can include additional questions, but at minimum must include these.

	Data Category	Specific Data Element	Suggested Drop-Down Options or Coding	Report to DOE	Additional Notes
		• My home is more comfortable than it was before the new efficiency upgrades • My energy bills are lower since the new efficiency upgrades • Overall, I am satisfied with my experience with the [Rebate name] program • I would recommend this program to a friend or family member who could use it • I plan to do more to save energy in my home because of my experience with this program			

3.3 Section 50122 Rebates: Programmatic Data Tracking & Reporting (Required)

The following programmatic data must be tracked by States and/or a designee and submitted on a monthly basis through the DOE PAGE system.

States can use DOE/PNNL-provided admin access to its centralized rebate database to download information required for any fields noted with an "X".

Data in the DOE/PNNL central rebate database will be:

- updated live for those states that use the DOE-provided workflows; and,
- updated monthly for those states that submit the data required in Section 3.2 via the Main API or DOE/PNNL standardized spreadsheet.

States can use the DOE/PNNL rebate tracking database to assemble this information via DOE-provided admin access where noted in the right column.

Table 8: Required Program Data Tracking for Section 50122

	Data Element	Details if Applicable	Can be Downloaded from DOE/PNNL Rebate Tracking Database
1	Total administrative Spend		
2	Other funds leveraged?	Yes / No	
3	Type/Source of other funds (if applicable)		
4	Amount of leveraged funds		
5	Number of $500 Installer Bonuses		
6	Other project-related costs		
7	List of qualified contractors	Provide a link to a live list that the state will keep updated	
8	Rebate funds allocated		X
9	Number of homes receiving rebates		X
10	Number of projects by LMI		X
11	Number of projects by DAC		X
12	Number of single-family projects		X
13	Number of LMI multifamily projects		X
14	Number of multifamily projects		X

	Data Element	Details if Applicable	Can be Downloaded from DOE/PNNL Rebate Tracking Database
15	Rebate funding to households <80% AMI		X
16	Rebate funding to DAC households		X
17	Rebate funding to single family projects		X
18	Rebate funding to multifamily projects <80% AMI		X
19	Rebate funding to multifamily projects		X
20	Number of responses to required consumer satisfaction survey	See Appendix B of DOE Program Requirements for more information.	X

These will be collected as part of the state's monthly progress reporting as required in the FARC (Financial Assistance Reporting Checklist).

4.0 Rebate Tracking, Processing & Workflows

(Required unless DOE approves alternatives for rebate processing and reporting)

To assist states in completing some of the many IT functions needed to facilitate rebate transactions in accordance with legislative and DOE requirements, DOE/PNNL developed workflows and application programming interfaces (APIs) aimed at **simplifying tracking, reporting, and participation by consumers, contractors, retailers, and others**. The products reflect significant input from external experts including program implementers, states, retailers, IT firms, and other stakeholders.

4.1 Workflows

The workflows outline step-by-step actions that various rebate participants (e.g., state energy offices, implementers, vendors, homeowners, installers, aggregators, eligible entity representatives) undertake, how their actions relate to one another, and what data is collected and/or reported at each step. Each workflow lays out a process that reflects a corresponding use case, including but not limited to who applies for the rebate, whether the rebate is applied at point of sale or installation, among other variables.

States and their program implementers are highly encouraged to use the DOE/PNNL workflows and APIs. The DOE/PNNL team is available to meet with states and/or their designees to ensure that the processes and systems work as effectively within a state's program design.

Given that some states may choose to integrate the rebates with existing programs and processes, states can propose alternative workflows. In such cases, the state is required to submit their alternative workflows at least 60 days prior to launch and attain DOE's approval prior to launch. States are encouraged to meet with DOE/PNNL prior to submitting this information to help ensure that submitted materials are sufficient.

4.2 APIs

DOE/PNNL has developed three (3) application program interfaces (APIs), located at https://www.pnnl.gov/projects/rebate-tools, to assist states with implementation and reporting.

- The "Main API" accepts required and optional data, creates rebate reservations, allows redemptions, and is used for reporting data to DOE.[18]
- For States that integrate with the Main API, unique Applicant IDs and Address IDs are required fields which are generated by two additional APIs:
    - The "Address API" converts a building address to a unique address ID, allows comparison with AMI values (based on location and household size) to determine rebate level eligibility, and determines if the address is located in a disadvantaged community.
    - The "Applicant ID" API will convert applicant information to a unique and anonymous Applicant ID.
- States need to refer to the API documentation defined in a living document and located on this webpage: https://www.pnnl.gov/projects/rebate-tools.
- Note: DOE/PNNL will notify all API users of API updates, with the goal of ONLY updating the APIs on an annual basis (if needed). Interim updates may be required should program requirements be modified or a functional problem is found.

[18] The main API can be used without using the rebate reservations and redemption process as long as the state gets their process/workflow approved by DOE/PNNL at least 60 days prior to launching their program.

4.3 Data Submittal to DOE

States can submit all required transaction-level data via the DOE/PNNL Main API or through a DOE/PNNL standardized spreadsheet.

See Appendix C for recommendations on linking your state's user-facing interfaces to data collection and reporting.

4.4 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.**

5.0 Appendix A – Section 50121 HPXML and BuildingSync Field Requirements

As noted in Section 2.2 of this guide, certain information pertaining to Section 50121 rebates must be provided in HPXML files for single family upgrades and in BuildingSync files for multifamily upgrades.[19] This Appendix provides guidance on what fields are required to be submitted for both single family and multifamily projects.

5.1 Single Family Buildings

Contractors must submit data in two HPXML files – the first file must reflect pre-retrofit conditions of the home and the second must reflect post-retrofit conditions. Most software tools[20] will allow contractors to simply amend the first file to avoid the need for double entry; if that is not the case with software approved for use by the state, implementers are encouraged to work with the software provider to make this capability available. The table below lists all data points that can be sent to DOE in HPXML files. As noted in the table, data requirements vary depending on whether the project applies the modeled or measured savings approach.

As a best practice, states are encouraged to collect all recommended data points listed in the table, particularly for modeled savings projects. The data points are consistent with those typically collected to create a home energy model, but also reflect the data required by the Home Energy Scoring Tool. To generate official Home Energy Scores and metrics, a Home Energy Score Qualified Assessor must collect the data using specific guidelines (e.g., do not include unconditioned space in the model, derate poorly installed insulation). Note that contracting firms will likely already need Qualified Assessors on staff (or as subcontractors) given that they are likely to use Home Energy Score as a path for complying with BPI 2400 when calibration is not possible.[21] States that require this approach will be able to leverage the outputs provided by the Scoring Tool to improve program delivery and provide additional benefits to participating households. For example, this method will:

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[19] Both HPXML and BuildingSync are standardized formats to report building characteristic data.

[20] For single family projects, the National Renewable Energy Laboratory (NREL) is developing a methodology for evaluating software tools' compliance with BPI 2400 and will provide a list of "approved" tools that will be updated as new software tools are approved. It is expected that the majority if not all of these software tools will have the capability of producing an HPXML file which will allow transmittal of collected information without additional effort.

[21] DOE will work with interested states and their implementers to assist in expeditiously training existing and new workforce. With free training and testing, this entry into the residential energy field may be particularly appealing to current students or recent graduates of technical colleges and high schools.

- Provide states with immediate access to standard metrics generated by a DOE, nationally recognized tool (e.g., the Score, energy use estimate, energy savings estimate, utility bill estimate, recommended improvements) that can be included in upgrade certificates;
- Give states the ability to compare contractor scopes of work with Home Energy Score-generated upgrade recommendations to determine if some contractors are consistently excluding cost-effective upgrades (e.g., air sealing, insulation); and,
- Allow homeowners to include standardized, DOE-labeled information and metrics (recognized by Fannie Mae, Freddie Mac, and the Federal Housing Administration) at point of listing to highlight their investments, drive higher appraisals, and help buyers leverage more favorable loan terms.

Table 9: Single-Family HPXML Inputs for Section 50121

Formatting for all fields is available in HPXML documentation.

	Category	User Inputs	Recommended for Modeled	Required for Modeled	Required for Measured
1	General	Address	X	X	X
2	General	Assessment date	X	X	X
3	General	Building type (single family detached, single family attached, manufactured home)	X	X	X
4	General	If manufactured home, single, double, or triple-wide?	X		
5	General	Year built	X	X	X
6	General	Number of bedrooms	X		
7	General	Stories above grade	X	X	X
8	General	Conditioned floor area	X	X	X
9	General	Floor to ceiling height	X		
10	General	House orientation	X		

	Category	User Inputs	Recommended for Modeled	Required for Modeled	Required for Measured
11	General	Electrical panel max amps (If adding electrical load)	X	X	X
12	General	Modeled[22] electricity use	X	X	X
13	General	Modeled[23] gas use	X	X	X
14	General	Modeled[24] other fuel use	X	X	X
15	General	Monthly utility usage data for 12 months prior to the upgrade	Pre-retrofit file only	Pre-retrofit file only	
16	Envelope	Blower door test (yes / no)	X	X	X
17	Envelope	CFM50 reading (if blower door test was completed)	X	X	X
18	Envelope	Professional whole home air sealing (yes / no)	X	X	X
19	Envelope	Attic area (if unconditioned attic)	X		
20	Envelope	Roof area (if conditioned attic or cathedral ceiling)	X	X	X

[22] For single family projects, the National Renewable Energy Laboratory (NREL) is developing a methodology for evaluating software tools' compliance with BPI 2400 and will provide a list of "approved" tools that will be updated as new software tools are approved. It is expected that the majority if not all of these software tools will have the capability of producing an HPXML file which will allow transmittal of collected information without additional effort.
[23] For single family projects, the National Renewable Energy Laboratory (NREL) is developing a methodology for evaluating software tools' compliance with BPI 2400 and will provide a list of "approved" tools that will be updated as new software tools are approved. It is expected that the majority if not all of these software tools will have the capability of producing an HPXML file which will allow transmittal of collected information without additional effort.
[24] For single family projects, the National Renewable Energy Laboratory (NREL) is developing a methodology for evaluating software tools' compliance with BPI 2400 and will provide a list of "approved" tools that will be updated as new software tools are approved. It is expected that the majority if not all of these software tools will have the capability of producing an HPXML file which will allow transmittal of collected information without additional effort.

	Category	User Inputs	Recommended for Modeled	Required for Modeled	Required for Measured
21	Envelope	Roof type (Unconditioned Attic, Cathedral Ceiling, Below Other Unit, Flat Roof, Manufactured Home Bowstring Roof)	X		
22	Envelope	Roof insulation R-value	X	X	X
23	Envelope	Type of attic insulation	X	X	X*
24	Envelope	Attic insulation R-value	X	X	X
25	Envelope	Attic knee wall area	X		
26	Envelope	Attic knee wall R-value	X	X	X
27	Envelope	Foundation type (can be more than one)	X	X	
28	Envelope	Foundation floor area of each foundation type	X		
29	Envelope	Insulation R-value above basement or crawlspace	X	X	X
30	Envelope	Basement wall or slab edge R-value (if basement or slab)	X	X	X
31	Envelope	Wall construction (for each side of the house)	X		
32	Envelope	Which walls are attached to other units or other spaces	X		
33	Envelope	Exterior cladding	X		
34	Envelope	Type of wall insulation	X		
35	Envelope	Cavity R-Value	X	X	X*
36	Envelope	Continuous wall insulation R-Value	X		
37	Envelope	Skylight Area (estimate if necessary)	X		
38	Envelope	Window area front (estimate if necessary)	X		
39	Envelope	Window area back (estimate if necessary)	X		

	Category	User Inputs	Recommended for Modeled	Required for Modeled	Required for Measured
40	Envelope	Window area left (estimate if necessary)	X		
41	Envelope	Window area right (estimate if necessary)	X		
42	Envelope	Number of panes (windows and skylights)	X		
43	Envelope	Frame type (windows and skylights)	X		
44	Envelope	Glazing type OR U-factor and SHGC (windows and skylights)	X	X	X*
45	Envelope	Window has exterior solar screen (yes / no)	X		
46	HVAC	Fraction of conditioned floor area served by each heating/cooling system	X	X	X*
47	HVAC	Heating system fuel (for each system)	X	X	X
48	HVAC	Heating system type (for each system)	X	X	X
49	HVAC	Heating system efficiency or year installed for pre-retrofit (for each system)	X	X	X
50	HVAC	Cooling system type (for each system)	X	X	X
51	HVAC	Cooling system efficiency or year installed for pre-retrofit (for each system)	X	X	X
52	HVAC	Duct location (can be multiple)	X		
53	HVAC	% ducts in each location	X		
54	HVAC	Ducts sealed (yes / no)	X	X	X
55	HVAC	Duct leakage test? (yes / no)	X	X	X
56	HVAC	Duct leakage to outside (CFM25)	X	X*	X*
57	HVAC	Ducts insulated (yes / no)	X	X	X*

	Category	User Inputs	Recommended for Modeled	Required for Modeled	Required for Measured
58	HVAC	Ventilation system type (supply, exhaust, balanced, CFIS, ERV, HRV)	X	X	X*
59	Fresh Air	Ventilation system rated flow rate (CFM)	Post-retrofit file only	Post-retrofit file only	Post-retrofit file only
60	HVAC	If HP added, does it meet Energy Star's requirement for cold climate HPs?	Post-retrofit file only	Post-retrofit file only	Post-retrofit file only
61	Water Heater	Water heater type	X	X	X
62	Water Heater	Water Heater Storage capacity	X	X	X
63	Water Heater	Water heater efficiency	X	X	X
64	Clothes washer	Clothes washer type	X	X	X*
65	Clothes dryer	Clothes dryer type	X	X	X*
66	Clothes dryer	Clothes dryer fuel	X	X	X
67	Stovetop/Oven/Range	Stovetop/Range type	X	X	X*
68	Utility usage	WeatherNormalizedHeatingUsage	X		X
69	Utility usage	WeatherNormalizedCoolingUsage	X		X
70	Utility usage	WeatherNormalizedBaseloadUsage	X		X
71	Utility usage	DetailedModelCalibrationHeatingBiasError	X		X
72	Utility usage	DetailedModelCalibrationCoolingBiasError	X		X
73	Utility usage	DetailedModelCalibrationCoolingAbsoluteError	X		X
74	Utility usage	DetailedModelCalibrationBaseloadBiasError	X		X
75	Utility usage	DetailedModelCalibrationBaseloadAbsoluteError	X		X

	Category	User Inputs	Recommended for Modeled	Required for Modeled	Required for Measured
76	Utility usage	SimplifiedModelCalibrationHeatingBiasError	X		X
77	Utility usage	SimplifiedModelCalibrationCoolingBiasError	X		X
78	Utility usage	SimplifiedModelCalibrationBaseloadBiasError	X		X
79	Utility usage	SimplifiedModelCalibrationTotalBiasError	X		X

*For these fields, "don't know" or "unknown" can be options. All other fields must match HPXML input requirements.

5.2 Multifamily Buildings

Contractors must submit the following data points via Audit Template (https://buildingenergyscore.energy.gov/) which then converts the data into BuildingSync output format to facilitate analysis. The following data points which are included in Audit Template are a representation of a Level II energy audit based on ASHRAE Standard 211. If there are additional audit data fields a user would like to submit, they must send in the data fields as an as an attachment on the 'Submit' screen. If there are instances where the below data fields are not applicable for the building (example: there is no cooling in the building), those inputs can be marked as "N/A" within the tool and the information does not need to be reported.

For multifamily projects, BuildingSync or standardized spreadsheet files are required to be submitted for reporting data. The DOE Audit Template is currently the only tool that automatically converts data into BuildingSync. States that elect to use other energy audit and modeling tools can manually enter their data into the free-to-use Audit Template or use a standardized spreadsheet.

Information about Audit Template and the corresponding BuildingSync files is available at https://buildingenergyscore.energy.gov/. The process for having models approved for use on multifamily buildings can be found in program recommendations when it is made available.

Table 10: Multifamily Data Inputs for Section 50121

	Category	User Inputs
1	General	Modeled or Measured?
2	Building Information	Building Name
3	Building Information	Building ID

	Category	User Inputs
4	Building Information	Year Completed
5	Building Information	Gross Floor Area
6	Building Information	Street
7	Building Information	City
8	Building Information	State
9	Building Information	ZIP Code
10	Audit Details	Date of Completion of Level 1 Audit
11	Audit Details	Date of Completion of Level 2 Audit
12	Audit Details	Date of Completion of Level 3 Audit
13	Audit Details	Year of Last Renovation
14	Audit Details	Year of Prior Energy Audit
15	Audit Details	Year Last Commissioned
16	Building Owner, Property Manager, Auditor Details	Auditor Years Experience
17	Building Owner, Property Manager, Auditor Details	Certification Type
18	Building Owner, Property Manager, Auditor Details	Contact Name
19	General Information	Gross Floor Area
20	General Information	Conditioned Floor Area, Heated Only
21	General Information	Conditioned Floor Area, Cooled Only
22	General Information	Conditioned Floor Area, Heated and Cooled
23	General Information	Number of Floors Above-grade, Conditioned
24	General Information	Number of Floors Below-grade, Conditioned
25	General Information	General Building Shape
26	General Information	Building automation system?
27	General Information	Historic building?

	Category	User Inputs
28	General Information: Use Type and Operation	Use Type/Space Function/Building Area Type
29	General Information: Use Type and Operation	Original Intended Use
30	General Information: Use Type and Operation	Gross Floor Area (for each use type)
31	General Information: Use Type and Operation	Percent Space Conditioned
32	General Information: Use Type and Operation	Number of Occupants
33	General Information: Use Type and Operation	Use in Hours per Week
34	General Information: Use Type and Operation	Use in Weeks per Year
35	Envelope: Roof	Total Roof Area
36	Envelope: Roof	Roof Construction Type
37	Envelope: Roof	Roof R-value
38	Envelope: Roof	Roof Condition
39	Envelope: Roof	Cool roof?
40	Envelope: Roof	Green roof?
41	Envelope: Roof	Blue roof?
42	Envelope: Wall	Total Exposed Wall Area, Above-grade
43	Envelope: Wall	Wall Area, Below-grade
44	Envelope: Wall	Demising Wall Area, Above-grade
45	Envelope: Wall	Wall Construction Type
46	Envelope: Wall	Wall Insulation R-value, Above-grade
47	Envelope: Wall	Wall Insulation R-value, Below-grade
48	Envelope: Fenestration	Window to Wall Ratio
49	Envelope: Fenestration	Framing Material
50	Envelope: Fenestration	Window Glass Type
51	Envelope: Foundation	Floor Construction Type

	Category	User Inputs
52	Envelope: Foundation	Foundation R-value
53	Envelope: Exterior Floor	Exterior Floor Construction Type
54	Lighting System	Lighting Type
55	Lighting System	Ballast Type
56	Lighting System	Manual controls?
57	Lighting System	Photocell controls?
58	Lighting System	Timer controls?
59	Lighting System	Occupancy sensor controls?
60	Lighting System	Building automation system (BAS)?
61	Lighting System	Advanced controls?
62	Lighting System	Other controls?
63	Lighting System	Space Function Served
64	Lighting System	Quantity Definition
65	HVAC: Heating Plants	Heating Plant Type
66	HVAC: Heating Plants	Fuel Type
67	HVAC: Heating Plants	Venting Type
68	HVAC: Heating Plants	Location of Equipment
69	HVAC: Heating Plants	Approximate Year Installed
70	HVAC: Heating Plants	Condition
71	HVAC: Heating Plants	Number of Pieces of Equipment
72	HVAC: Heating Plants	Output Capacity
73	HVAC: Heating Plants	Efficiency Units
74	HVAC: Heating Plants	Rated Efficiency
75	HVAC: Heating Plants	Building automation system (BAS)?

	Category	User Inputs
76	HVAC: Heating Plants	Direct digital controls (DDC)?
77	HVAC: Heating Plants	Pneumatic controls?
78	HVAC: Cooling Plants	Cooling Plant Type
79	HVAC: Cooling Plants	Fuel Type
80	HVAC: Cooling Plants	Chiller Compressor Type
81	HVAC: Cooling Plants	Chiller Condenser Type
82	HVAC: Cooling Plants	Location of Equipment
83	HVAC: Cooling Plants	Approximate Year Installed
84	HVAC: Cooling Plants	Condition
85	HVAC: Cooling Plants	Number of Pieces of Equipment
86	HVAC: Cooling Plants	Output Capacity
87	HVAC: Cooling Plants	Efficiency Units
88	HVAC: Cooling Plants	Rated Efficiency
89	HVAC: Cooling Plants	Building automation system (BAS)?
90	HVAC: Cooling Plants	Direct digital controls (DDC)?
91	HVAC: Cooling Plants	Pneumatic controls?
92	HVAC: Condenser Plant	Condenser Plant Type
93	HVAC System: Air Handling Unit	Heating Source Type
94	HVAC System: Air Handling Unit	Heating Plant ID
95	HVAC System: Air Handling Unit	Fuel Type
96	HVAC System: Air Handling Unit	Location of Equipment
97	HVAC System: Air Handling Unit	Approximate Year Installed
98	HVAC System: Air Handling Unit	Condition
99	HVAC System: Air Handling Unit	Number of Pieces of Equipment

	Category	User Inputs
100	HVAC System: Air Handling Unit	Output Capacity
101	HVAC System: Air Handling Unit	Efficiency Units
102	HVAC System: Air Handling Unit	Rated Efficiency
103	HVAC System: Air Handling Unit	Cooling Source Type
104	HVAC System: Air Handling Unit	Cooling Plant ID
105	HVAC System: Air Handling Unit	Fuel Type
106	HVAC System: Air Handling Unit	Location of Equipment
107	HVAC System: Air Handling Unit	Approximate Year Installed
108	HVAC System: Air Handling Unit	Condition
109	HVAC System: Air Handling Unit	Number of Pieces of Equipment
110	HVAC System: Air Handling Unit	Output Capacity
111	HVAC System: Air Handling Unit	Efficiency Units
112	HVAC System: Air Handling Unit	Rated Efficiency
113	HVAC System: Air Handling Unit	Central Distribution Type
114	HVAC System: Air Handling Unit	Central Distribution Type (Other)
115	HVAC System: Air Handling Unit	Delivery Equipment Type
116	HVAC System: Air Handling Unit	Delivery Equipment Type (Other)
117	HVAC System: Air Handling Unit	Fan Control Type
118	HVAC System: Air Handling Unit	Energy Recovery Ventilation Type
119	HVAC System: Air Handling Unit	Outdoor Air Control Type
120	HVAC System: Air Handling Unit	Direct digital controls (DDC)?
121	HVAC System: Air Handling Unit	Pneumatic controls?
122	HVAC System: Air Handling Unit	Manual thermostat?
123	HVAC System: Air Handling Unit	Programmable thermostat?

	Category	User Inputs
124	HVAC System: Air Handling Unit	No controls?
125	HVAC System: Air Handling Unit	Space Function Served
126	SHW System	Hot Water System Type
127	SHW System	Location of Equipment
128	SHW System	Approximate Year Installed
129	SHW System	Fuel Type
130	SHW System	Efficiency Units
131	SHW System	Rated Efficiency
132	SHW System	Space Function Served
133	Ownership Details	Percent Owned
134	Ownership Details	Percent Leased
135	Ownership Details	Multi-tenant?
136	Available Energy Supply Sources	Energy Type
137	Metered Energy Supply Source Details	Energy Supply Source
138	Energy Reporting Years and Data Import	Metered Energy Year Start Date
139	Metered Energy	Energy Type
140	Metered Energy	Start Date
141	Metered Energy	End Date
142	Metered Energy	Energy Use in Native Units
143	Metered Energy	Energy Cost
144	Delivered Energy	Energy Type
145	Delivered Energy	Delivery Date
146	Delivered Energy	Delivered Quantity
147	Delivered Energy	Delivered Cost

	Category	User Inputs
148	Building Annual Summary for Energy Use and Energy Cost	Energy Type
149	Building Annual Summary for Energy Use and Energy Cost	Annual Energy Use in Native Units
150	Building Annual Summary for Energy Use and Energy Cost	Annual Energy Cost
151	Building Annual Summary for On-Site Renewables	Energy Type
152	Building Annual Summary for On-Site Renewables	Annual Energy Use in Native Units
153	Building Annual Summary for On-Site Renewables	Annual Energy Cost
154	Building Annual Summary for On-Site Renewables	Renewable Energy Output
155	Building Annual Summary for On-Site Renewables	Renewable Energy Annual Cost
156	Building Annual Summary for Exported Energy	Energy Type
157	Building Annual Summary for Exported Energy	Annual Energy Use in Native Units
158	Building Annual Summary for Exported Energy	Annual Energy Cost
159	Benchmarking	Benchmarking Source
160	Benchmarking	Year Benchmarked
161	Benchmarking	Benchmark Site Energy Use Intensity
162	Benchmarking	Benchmark Site Energy Cost Intensity
163	Benchmarking	Target Site Energy Use Intensity
164	Benchmarking	Target Site Energy Cost Intensity
165	Building Energy Use by End Use	Energy Type
166	Building Energy Use by End Use	End Use
167	Building Energy Use by End Use	Energy Use in Native Units
168	Building Energy Savings Opportunities: Measures	Measure Identifier
169	Building Energy Savings Opportunities: Measures	System Category
170	Building Energy Savings Opportunities: Measures	Measure Category
171	Building Energy Savings Opportunities: Measures	Measure Name

	Category	User Inputs
172	Building Energy Savings Opportunities: Measures	Measure Description
173	Building Energy Savings Opportunities: Measures	Measure Status
174	Building Energy Savings Opportunities: Measures	Modeling/Calculation Approach
175	Building Energy Savings Opportunities: Measures	Implementation Year
176	Building Energy Savings Opportunities: Measures	Annual Energy and Cost Savings: Total Cost Savings
177	Building Energy Savings Opportunities: Measures	Annual Energy and Cost Savings: Energy Source 1 (native units)
178	Building Energy Savings Opportunities: Measures	Annual Energy and Cost Savings: Energy Source n (native units)
179	Building Energy Savings Opportunities: Measures	Annual Energy and Cost Savings: Peak Demand Savings
180	Building Energy Savings Opportunities: Measures	Measure Cost and Incentives: Measure Cost
181	Building Energy Savings Opportunities: Measures	Measure Cost and Incentives: Measure Life
182	Building Energy Savings Opportunities: Packages	Packages: Package Name
183	Building Energy Savings Opportunities: Packages	Package: Package Category
184	Building Energy Savings Opportunities: Packages	Package: Energy Savings Package ID
185	Building Energy Savings Opportunities: Packages	Package: Energy Savings Measure ID(s)
186	Building Energy Savings Opportunities: Packages	Package: Total Annual Energy Cost Savings
187	Building Energy Savings Opportunities: Packages	Package: Annual Energy and Cost Savings Energy Source 1 (native units)
188	Building Energy Savings Opportunities: Packages	Package: Annual Energy and Cost Savings Energy Source n (native units)
189	Building Energy Savings Opportunities: Packages	Package: Annual Energy and Cost Savings: Total Energy Cost Savings
190	Additional Information	Attachment Reference
191	Additional Information	Attachment Reference (Other)

	Category	User Inputs
192	Additional Information	Attachment Description
193	Additional Information	Attachment File

6.0 Appendix B – Section 50122 Components

As noted in Section 3.2 of this guide, certain component information and home conditions must be provided for Section 50122 projects. Depending on the type of rebate, this data will either be provided by the homeowner (when they apply for a rebate) or the contractor doing the installation. States can allow "N/A" depending on the rebate type (e.g., envelope improvements – ceiling insulation). In other words, the rebate applicant should ONLY be asked questions relevant to the type of upgrade included in their application.[25] Consistent with latest program requirements, the contractor will be required to provide the relevant information.

All heat pump projects must be installed by a qualified contractor and that contractor must conduct a limited assessment (see Table 12 for more information on limited assessments) to ensure no harm is going to be done to the home due to the retrofit.[26] Contractors must document the install by capturing geo-tagged photos (use of PNNL's Quality Install Tool[27] is recommended).

Combustion safety testing is required in Section 50122 for HVAC and envelope projects if combustion appliances remain in the home after the retrofit occurs. The documentation for these tests is covered in Section 3.2 of this document.

Table 11: Upgrade Component Data Required for Section 50122

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
1	Envelope Improvements – Wall Insulation	What is the existing insulation in the walls?	Dropdown: • None	

[25] While the state is only required report those data component details related to the specific improvement being made, a state may elect to request and report additional data points, particularly if the upgrade is being made by a contractor.

[26] Harm due to retrofit could include creating conditions that lead to increased operational costs, undesirable or unsafe indoor air quality conditions due to pressure imbalances that cause CO issues in homes with gas appliances, or mold and mildew growth for homes with insulation but no air sealing, or homes that are airtight but don't include ventilation, which can lead to CO2 and other buildup in an unhealthy way.

[27] See https://quality-install-tool.pnnl.gov/. Specifically, the workflow should be for ductless heat pump and central ducted split heat pump depending on which system in being installed.

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
			• Cavity insulation (batt or blown-in) • Fanfold insulation • Exterior continuous insulation • Don't know	
2	Envelope Improvements – Wall Insulation	What insulation was added to the walls?		Select one of Cavity Insulation Improvement: • Cavity insulation – R-13 • Cavity insulation – R-19 • Cavity insulation – R-21 • Cavity insulation more than R-21 And/or select one of the following Exterior Insulation Improvements: • None • Exterior continuous insulation – 1 inch • Exterior continuous insulation – 2 inches

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
				• Exterior continuous insulation – more than 2 inches NOTE: This information is available on the box of the product purchased.
3	Envelope Improvements – Wall Insulation	What percentage of wall area received additional insulation (choose the closest)?		Dropdown: • 10% • 25% • 50% • 75% • 100%
4	Envelope Improvements – Ceiling insulation	What is the existing insulation in the ceiling?	Dropdown: • None • Batt insulation • Blown-in insulation • Rigid board insulation • Closed cell spray foam insulation • Don't know	

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
5	Envelope Improvements – Ceiling insulation	What R-value was added to the ceiling?		Dropdown: • Less than R-30 • R-30 • R-49 • R-60 • more than R-60
6	Envelope Improvements – Ceiling insulation	What percentage of ceiling area received additional insulation (choose the closest)?		Dropdown: • 10% • 25% • 50% • 75% • 100%
7	Envelope Improvements – Duct Insulation	Do the existing ducts run primarily through conditioned or unconditioned space?	Dropdown: • Conditioned • Unconditioned • Don't know	
8	Envelope Improvements – Duct Insulation	What percentage of the duct system received additional insulation (choose the closest)?		Dropdown: • 10% • 25% • 50% • 75% • 100%

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
9	Envelope Improvements – Floor Insulation Above Unconditioned Space	What percent of floor area that is above unconditioned space (choose the closest)?		Dropdown: • 10% • 25% • 50% • 75% • 100%
10	Envelope Improvements – Floor Insulation Above Unconditioned Space	What R-value was added?		Dropdown: • Less than R-10 • R-10 • R-13 • R-19 • R-30 • More than R-30
11	Envelope Improvements – Floor Insulation Above Conditioned Space	What percent of floor area that is above conditioned space (choose the closest)?		Dropdown: • 10% • 25% • 50% • 75% • 100%
12	Envelope Improvements – Floor	What R-value was added?		Dropdown: • Less than R-10 • R-10

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
	Insulation Above Conditioned Space			• R-13 • R-19 • R-30 • More than R-30
13	Envelope Improvements – Foundation Insulation	What is the foundation type?		Dropdown: • Slab-on-grade • Vented crawlspace • Conditioned crawlspace • Unconditioned basement • Conditioned basement
14	Envelope Improvements – Foundation Insulation	What percent of the foundation perimeter (consider the perimeter as a line around the edge of the foundation) (choose the closest)?		Dropdown: • 10% • 25% • 50% • 75% • 100%
15	Envelope Improvements – Foundation Insulation	What R-value was added to the foundation perimeter?		Dropdown: • Less than R-5 • R-5 • R-10 • R-13 • R-19

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
				• R-30
16	Envelope improvements – Air sealing	What part of the home are you air sealing?		Checkboxes: • Attic • Walls/Windows/Doors • Floor/Foundation
17	Envelope improvements – Air sealing	What is the starting air leakage rate for the home before modification?	Fill in the blank: • CFM at 50Pa: ______ • Don't know	
18	Envelope improvements – Air sealing	What is the air sealing level you have achieved?		Fill in the blank: • CFM at 50Pa: ________ • Don't know
19	Envelope improvements – Air sealing	Is the homeowner aware that combustion safety tests are highly recommended for homes with any gas appliances after air sealing projects are completed?		Dropdown: • Yes • No • N/A
20	Envelope Improvements – Duct sealing	What is the starting total duct leakage rate before modification?	Fill in the blank: • CFM at 25Pa: ______	

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
			• Don't know	
21	Envelope Improvements – Duct sealing	What is the total duct leakage after air sealing?		Fill in the blank: • CFM at 25Pa: ________ • Don't know
22	Electrical Panel	What are the details about the existing electrical panel?	Fill in the blank: • Max Amps to household: ______ • Number of open breaker spots: ______	
23	Electrical Panel	What are the details of the new electrical panel?		Fill in the blank: • Max Amps to household: ______ • Number of open breaker spots: ______
24	Heat Pump Water Heater	What is the fuel type of your existing water heater?	Dropdown: • Gas • Electric • Oil • None	

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
25	Heat Pump Water Heater	What is the type of your water heating system before upgrading to a heat pump water heater?	Dropdown: • Water heater with storage tank • Tankless water heater • Don't know	
26	Heat Pump Water Heater	What is the storage capacity before and after?	Dropdown: • Less than 45 gal • 45 gal • 50 gal • 60 gal • 80 gal • More than 80 gal • Don't know	Dropdown: • Less than 45 gal • 45 gal • 50 gal • 60 gal • 80 gal • More than 80 gal
27	HVAC – Heat Pump	What is the fuel type of your existing heating system?	Dropdown: • Gas • Electric • Oil • None	

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
28	HVAC – Heat Pump	What is your existing heating distribution type?	Dropdown: • Forced Air (furnace) • Hydronic/Steam boiler) • Baseboard • Heat Pump • Other	
29	HVAC – Ventilation	Is there an existing whole-house ventilation system?	Dropdown: • Yes • No	
30	HVAC – Ventilation	What is the CFM flow rate of the new whole-house ventilation system?		Fill in the blank (≥ 0)
31	Heat Pump Clothes Dryer	What is the existing dryer fuel type?	Dropdown: • Gas • Electric • None	

	Upgrade Type (required only if relevant to the previously chosen upgrade type)	Question	Original Component Details	Upgraded Component Details
32	Heat Pump Clothes Dryer	What is the annual energy use estimated on the EnergyGuide label of the new clothes dryer? (kWh/yr)		Fill in the blank (≥ 0)
33	Electric Stovetop/Oven/Range	What is the fuel type of the existing stovetop/oven/range?	Dropdown: • Gas • Electric • None	
34	Electric Stovetop/Oven/Range	What is the new stovetop/oven/range type?		Dropdown: • Standard electric • Induction cooktop

The following table documents the pre-installation limited assessment requirements for HVAC installations associated with Section 50122.

Table 12: Required Limited Assessment Inputs for Section 50122 HVAC

	Category	User Inputs	Required for Limited Assessment
1	General	Address	X
2	General	Assessment date	X

	Category	User Inputs	Required for Limited Assessment
3	General	Home Year built	X
4	General	Conditioned floor area	X
5	General	Electrical panel max amps (If adding electrical load)	X
6	Envelope	Professional whole home air sealing (yes / no)	X
7	Envelope	Type of attic insulation	X
8	Envelope	Attic insulation R-value	X
9	HVAC	Fraction of conditioned floor area served by each heating/cooling system	X
10	HVAC	Heating system fuel (for each system)	X
11	HVAC	Heating system type (for each system)	X
12	HVAC	Heating system efficiency or year installed for pre-retrofit (for each system)	X
13	HVAC	Cooling system type (for each system)	X
14	HVAC	Cooling system efficiency or year installed for pre-retrofit (for each system)	X
15	HVAC	Ducts sealed (yes / no)	X
16	HVAC	Ducts insulated (yes / no)	X
17	HVAC	Whole Home ventilation system type (supply, exhaust, balanced, CFIS, ERV, HRV)	X
18	HVAC	Whole Home ventilation system rated flow rate (CFM)	X

*These fields will include "don't know" or "unknown" as an option.

7.0 Appendix C – IT System Functions

States, working with implementers and/or other service providers, will need a combination of personnel and IT systems to facilitate rebate transactions authorized in Sections 50121 and 50122 of the Inflation Reduction Act. At a minimum, IT systems are required to provide the functions listed below in full or in part.

The DOE Rebate Tracking System and Coupon Generator can help states fulfill some of these functions. For states using the API (with or without the Coupon Generator), it is important to consider how these systems must or ideally should be tied directly into the API.

- Provide user interfaces for a variety of stakeholders such as building owners, occupants, contractors.
- RECOMMENDATION: Where possible, link all relevant data submitted via user interfaces directly to the DOE/PNNL API (or DOE/PNNL standardized spreadsheet if using that to report data). This will dramatically improve consistency of data reporting and vastly reduce any need for duplicative data entry. For those states using the DOE Coupon Generator, this will also ensure that information submitted by rebate participants who are NOT independently connected to the API flows to the DOE system in real-time. That functionality is central to minimizing the possibility of fraudulent duplicative uses of rebate coupons and fulfilling other important objectives.
- Apply user-centered design principles, use plain language, meet accessibility requirements, and provide translation options for non-native English speakers.
- Initiate rebate transaction
- Generate unique house ID linked to home address
- Determine home and household eligibility through steps including:
    - Verify address submitted
    - Compare household income to AMI levels associated with zip code and number of occupants
    - Accept and review information regarding a household's enrollment in programs that establish income eligibility
    - Confirm that the individual(s) associated with the income information live at the submitted home address
    - Compare rebate request to data on IRA home energy rebates already applied at that address
    - Determine number of units if multifamily building
- Confirm contractor eligibility if applicable

- Determine eligibility of proposed improvement:
    - product type (e.g., water heater, induction cooktop)
    - home's existing system that will be replaced or displaced
    - product specifications
- Collect virtual signatures from occupants and building owners attesting to accuracy of submitted information
- Confirm if the rebate will be used at point of purchase with a listed or non-listed vendor
- Generate coupons/rebates for national retailers, qualified contractors, and non-listed vendors
- Remit payments to contractors and vendors for used rebate coupons
- Link IT systems via APIs
- Store and report required data

IT systems may also be designed to offer additional functionality such as:

- Accept geo-located photos of installed equipment
- Accept home assessment data
- Accept home energy models
- Accept information regarding measured savings
- Accept utility bills from homes where rebates have been applied