

Northern Rural Energy Network

Residential Equity Program Implementation Plan



Revised November 4, 2025

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Program Overview

The Residential Equity Segment Program of the Northern California Rural Regional Energy Network (also known as Northern Rural Energy Network or NREN) will provide outreach and energy awareness information to all residential customers, tailored to the region, climate, county or community-level demographics, housing stock, and other characteristics, with a priority to serve hard-to-reach, underserved and disadvantaged communities. Educational opportunities will be made accessible to community members through a wide range of activities such as event tabling, presentations to local groups, partnerships with community-based organizations (CBOs), and more. Basic energy efficiency kits that contain simple training materials and low-cost energy efficiency measures will be offered at these events and online. Customers will be encouraged to apply for a virtual or in-home energy assessment. The energy assessments will provide a report with specific, actionable recommendations for improving the home to reduce energy consumption and greenhouse gas (GHG) emissions, and will guide the customer toward available incentives and financing options offered by NREN, Pacific Gas & Electric Company (PG&E) and third-party program implementers, tax incentives, and non-ratepayer funded programs such as TECH Clean California and the Department of Energy's Home Electrification and Application Rebates (also known as HEEHRA).

Program Budget and Savings

Table 1: Program Budget and Savings		
1	Program Name	Residential Equity Program
2	Program ID number	RRN001
3	Program Implementer	NREN
4	Portfolio Administrator	NREN
5	Program Implementer Type (IOU Core, Third-Party Solicited, REN/CCA)	REN
6	Portfolio Segment (Resource Acquisition, Equity, Market Support, or Codes and Standards) ¹	Equity
7	Total Program Budget	\$6,185,897

¹ D.21-05-031 Ordering Paragraph 2

Table 1: Program Budget and Savings

8	Program Budget by Year	2024: \$80,257 2025: \$1,887,333 2026: \$2,050,193 2027: \$2,168,115
9	Program Duration (Start Date - End Date)	2025-2027
10	Total System Benefit (TSB) (Total Program TSB and TSB by Program Year)	2025: \$64,550 2026: \$64,673 2027: \$113,001 Total: \$242,224
11	CO ₂ (Lifecycle, First Year, Net, Gross)	First Year Net: 271.84 First Year Gross: 344.91 Lifecycle Net: 4,348.32 Lifecycle Gross: 5,074.67
12	KW (First Year, Net, Gross)	Net: 13.69 Gross: 26.48
12	KWh (Lifecycle, First Year, Net, Gross)	First Year Net: 80,400 First Year Gross: 117,135 Lifecycle Net: 989,752 Lifecycle Gross: 1,672,961
13	Therms (Lifecycle, First Year, Net, Gross)	First Year Net: 15,783 First Year Gross: 27,169 Lifecycle Net: 66,742 Lifecycle Gross: 138,576
14	Program Cost Effectiveness: Total Resource Cost (TRC): (Total TRC and TRC by Year)	0.04
15	Program Cost Effectiveness: Program Administrator Cost (PAC): (Total PAC and PAC by Year)	0.03

Table 1: Program Budget and Savings		
16	Market Sector(s) (i.e., residential, commercial, industrial, agricultural, public or cross-cutting) If multi-sector, provide estimated % of the total budget for each sector)	Residential
17	Program Type (i.e., Non-resource, Resource)	Equity
18	Delivery Type(s) (i.e., Upstream-Manufactured, Midstream-Distributor, Midstream-Retail, Downstream, Downstream - Direct Install, ² Codes & Standards) ³	Downstream and Direct Install
19	Intervention Strategies (e.g., Strategic Energy Management (SEM), Market Access Program (MAP), Direct Install, Incentive, Finance, Audit, Technical Assistance, Advocacy, Training, Marketing and Outreach, etc.)	Needs Assessment, Energy Assessments and Reports Energy Efficiency Kits, Energy Education Activities, Incentives
20	M&V Methods (e.g., Deemed, Custom, NMEC – Population, NMEC – Site, SEM M&V, Randomized Controlled Trial (RCT), Other (if applicable, describe Other M&V method))	Deemed

Implementation Plan

1. Program Description

The Residential Equity program is designed to help rural communities understand, access, and act on energy efficiency opportunities. NREN will work to meet rural customers where they are at, addressing their specific needs, perspectives, and challenges. The program focuses on serving the NREN Equity Target Market, those who face high energy burdens and who have the most to gain in addressing their energy efficiency opportunities and have been underserved by existing energy efficiency programs. The program builds on the local existing relationships, data, experience, and knowledge that each NREN partner has accumulated throughout years of serving customers as part of rural-focused programs. The Residential Equity program serves as a point of entry for rural customers to benefit from resource acquisition and financing, and other energy efficiency programs.

Rationale

There is a documented need to better connect rural communities with residential energy efficiency opportunities. Data sets from a variety of sources, such as American Communities Survey and California Energy Commission show that the NREN territory is composed of a higher

² <https://cedars.sound-data.com/deer-resources/deemed-measure-packages/guidance/>

³ Database for Energy Efficiency Resources (DEER) 2026 Delivery Types

proportion of detached single-family homes and attached townhouses, and that energy usage use is higher on a per occupied housing unit basis than the state average. Partly due to higher energy intensities, as well as numerous other factors, such as housing overcrowding, lower incomes, and high costs of non-regulated fuels, rural areas often face a higher energy burden than urban areas. Connection to energy efficiency programs begins with outreach and education directed at the unique needs of rural and tribal communities that may have been overlooked by statewide marketing efforts. In addition, many rural residents of California have historically faced geographic barriers to accessing energy efficiency services from program implementers due to travel expenses. Due to all these factors, NREN has determined that there is a strong need for a rural residential equity program that serves as a point of entry for rural customers to equitably benefit from energy efficiency.

Program Objectives

The Residential Equity program objectives are designed to support rural community members throughout their energy efficiency journey and help prepare them for participating in resource acquisition, financing, and other energy programs.

OBJECTIVE 1: Increase energy awareness in rural communities, especially for the NREN Equity Target Market

OBJECTIVE 2: Enable rural communities to take immediate action on their energy saving opportunities.

OBJECTIVE 3: Facilitate a point of entry for rural customers to benefit from resource acquisition financing, and other energy programs.

The following metrics and indicators are used to track program outcomes and may be updated upon launch and informed by future program evaluation and reporting requirements:

- Number and type of educational activities completed
- Energy efficiency kits distributed and channels
- Energy assessments completed
- Energy reports delivered
- Percent of equity targeted customer participation
- Tribal community engagement (indicator)

Geographic distribution of delivered services (indicator) NREN will seek to track key data points for each program participant and ensure the program is serving equity-targeted households, while understanding that excessive demographic questions may reduce trust and willingness to participate in program services. Alternatives are to track participation across targeted zip codes and communities as well as tracking CBO and Tribal collaborations. NREN will also use the results of the Needs Assessment in PA1 to inform the creation of specific target metrics and data collection methodology.

2. Performance Tracking

The program savings and TSB metrics are listed above in Table 1: Program Budget and Savings and in the Quantitative Program Targets below. Common metrics, equity and market support indicators and unique value metrics (UVMs) will also be tracked but will not have targets in 2025-2027.

Table 2: Quantitative Program Targets

Metric	2024	2025	2026	2027
Budget	\$80,257	\$1,887,333	\$2,050,193	\$2,168,115
TRC	0	0.03	0.03	0.05
TSB	0	\$64,549.52	\$64,673.30	\$113,000.67
Net kWh	0	1791.81	29895.11	48713.53
Net kW	0	0.32	5.10	8.26
GHG (Tons)	0	56.88	20.24	194.71
HTR (%)	NA	70	70	70
Assessments	0	145	305	409
Energy Reports	0	145	305	409
Kits Distributed	0	540	1100	1200
Educational Activities	0	72	99	89

3. Program Delivery and Customer Services:

This program focuses on reaching residential customers who belong to an equity targeted household with a specific emphasis on reaching customers with high energy burdens, such as service and seasonal workers, senior citizens, those living in disadvantaged or low-income communities, tribal members, displaced workers, those on a fixed-income, and residents meeting HTR criteria.

The program strives to increase customer energy efficiency awareness and literacy, provide immediate savings through no-cost energy efficiency kits, streamlined no-cost energy efficiency assessments, and generate simple energy reports that identify opportunities and connect participants to additional programs to further address their opportunities. The program seeks to meet every customer where they are and provide them with the resources they need to continue their energy journey.

NREN aims to utilize a largely downstream delivery channel, connecting directly to the end use customer both directly and in partnership with key market actors. Key market actors include individuals and organizations that can act as trusted sources of information and can promote energy efficiency to residents. This includes, amongst others, local elected officials, tribal governments and organizations, public agency staff, community-based organizations, faith-based organizations and residential customers providing word of mouth outreach. Because reaching residential rural communities can be highly situational, this program focuses on

localized approaches to program delivery. Each NREN partner has experience reaching residents within their own communities in their region. There is a programmatic core that all partners participate in, but the way the program is delivered--and more importantly, accepted by the end user—is unique. Retaining this flexible model of regional collaboration coupled with local customization is crucial to the delivery of this program.

This program serves residential customers throughout the NREN service territory in the following counties: Alpine, Amador, Butte, Calaveras, El Dorado, Humboldt, Lake, Lassen, Mariposa, Mendocino, Nevada, Placer, Plumas, Sierra, Sutter, Tuolumne, and Yuba.

The counties included in the program territory are home to a large portion of traditionally underserved, disadvantaged, and HTR communities. In total, 76% of the NREN counties meet the CPUC definition of Hard-to-Reach and 59% are Disadvantaged Communities. Therefore, this program focuses on serving customers that qualify as HTR, live in census tracts identified as disadvantaged and low-income communities, as well as Tribal communities and other customers in the NREN Equity Target Market.

Marketing Approach

Each rural community is different, and each outreach approach must take into account the culture and values of residents in order to be effective. This program seeks to reach rural residents with low, medium, and high touch communication strategies that meet customers where they are on their energy efficiency journey. Broadly, digital email campaigns, newsletters, social media, and news media are used to build program awareness along with more traditional in-person and print-based outreach, such as tabling at community events, presenting at meetings of community organizations, partnering with CBOs, and creating and distributing program flyers. Where available, NREN will also loan induction cooktops and energy tools to residents to experience new cooking technology first-hand and to enable deeper energy awareness. These marketing efforts first seek to inform community members and increase energy efficiency awareness. Subsequent outreach efforts then seek to drive interest in enrollment for the more complex offerings of the program, which focus on providing no-cost energy assessments and energy reports. Marketing, outreach, and education efforts will also increase energy awareness and understanding, communicating the value of addressing energy efficiency to the rural equity customer. Finally, marketing efforts seek to increase awareness of other resources available to rural communities to reduce their energy burden, such as NREN resource acquisition and financing programs, IOU resource acquisition programs, and financing programs, as well as energy conservation and demand response tips.

Marketing approach 1: Culturally appropriate in-person (one-on-one and groups) outreach events, meetings, tabling, and presentations in collaboration with CBOs and tribal organizations.

Marketing approach 2: Culturally appropriate digital engagement including email campaigns, newsletters, social media, and advertisement (radio, social media, streaming, and TV)

Marketing approach 3: Website marketing strategies such as search engine optimization to drive customers to the NREN webpage and other digital offerings.

Program Activities (PA)

PA-1 Rural Residential Needs Assessment: While NREN partners have broad experience and knowledge serving the energy needs of rural customers, there is also a need for further research and data collection. NREN intends to work with a neutral third party to identify and prioritize specific energy efficiency needs and barriers to better inform program design and implementation. This will occur concurrently with the launch of the other activities listed below.

PA-2 Energy Efficiency Education: This program seeks to increase energy efficiency awareness and literacy in our communities by acting as educators, as well as resource aggregators. Each program partner uses localized messaging and education strategies that resonate with their communities in order to increase energy efficiency knowledge. This program also seeks to have communities develop a better understanding of their energy efficiency opportunities, and the financial and other non-energy benefits that can be achieved by taking action. Each NREN partner will strengthen existing relationships and build new coalitions within their communities in order to amplify their message and increase their reach. Partnerships with local CBOs and other key market actors can be crucial to building awareness. Finally, each NREN partner is focusing on meeting targeted equity customers where they are at, providing information that is both context- and detail-appropriate in order to provide the most benefit. Educational efforts will be multi-modal including presentations to local community groups, online and in-person workshops, tabling at community events, educational videos, as well as printed and digital material.

PA-3 Energy Efficiency Kits: Energy efficiency kits (Kits) will be mailed to interested customers, distributed at select in-person events, and provided at in-home energy assessments detailed below. Energy efficiency kits include no-cost energy efficiency equipment, such as LED light bulbs and smart power strips, for immediate self-installation and educational material customized for the targeted market. The kit will come with links to installation support, an offer for a no-cost assessment as described in Program Activity 4, an energy-saving tips booklet, and collateral for the NREN Residential Resource program (RRN002), as well as referral information for energy efficiency services available from other providers where applicable.

PA-4 In-Home or Virtual Energy Assessments: NREN is providing no-cost home energy assessments to customers who enroll in this offering. These energy assessments are performed by NREN program staff either over the phone or in-person at the customer's home. The findings of the no-cost home energy audits are used to determine each resident's unique opportunities including building envelope, energy-related behaviors, plug loads, appliances, and measures offered by the NREN Residential RA program. The assessment may include an analysis of the customer's energy use over the last 12 months. The analysis will look for peak/part-peak hour usage, seasonal variations, baseload, and energy use intensity. These no-cost energy assessments serve as the basis for the creation of an energy report, as described below under PA-5. In certain circumstances, home energy auditors will also offer immediate energy savings by installing Energy Efficiency Kit equipment at no cost.

PA-5: Energy Reports:

Energy reports serve as a primary tool for this program to connect customers to energy efficiency resources. The activities described in PA-4 will form the basis of these energy reports. The goal is to

provide customers with a customized report that provides simple and actionable next steps for each customer to continue their energy efficiency journey.

The energy reports provide a list of energy efficiency and conservation measures and actions that can be implemented right away and at low cost as well as investment opportunities for those who are interested. The energy reports also provide specific recommendations and referrals for customers to connect with incentives, financing, and other energy programs both through the NREN resource acquisition and financing programs and other services or incentives where applicable.

PA-6: Rebates for Customers with Unregulated Fuels:

Customers that use unregulated fuels for heating, water heating, or cooking are ineligible for residential building envelope measures, HVAC measures, and electrification measures through Resource Acquisition programs. NREN aims to fill this gap by providing these customers with downstream rebates funded through the Residential Equity Program. This activity will leverage all aspects of the Rebate Catalog Service outlined in NREN's Residential Resource Acquisition program. See the Rural Residential Whole House Program Implementation Plan for details.

4. Program Design and Best Practices:

NREN will provide equity services through a downstream market channel to residential customers as described in this implementation plan directly through local staff engagement with local residents. NREN partner agencies will leverage their deep local knowledge and experience to work with key market actors to build trust and deliver services in a timely and accessible manner.

NREN has identified four barriers to residential energy efficiency in rural communities that the program activities are seeking to resolve:

- Geographic isolation
- Lack of energy efficiency awareness and literacy
- High first-cost of energy efficiency investments
- Low engagement in energy efficiency programs

The first barrier identified by NREN is one faced by many rural communities in America, as detailed in the Bridging the Rural EE Gap scientific article, and the Reaching Rural Communities with Energy Efficiency Programs ACEEE report¹. Rural areas have low building densities, and, in many cases, communities are geographically isolated from one another. This means any type of contractor-based work in our communities can be more cost-intensive than in urban areas, due to longer travel times and customer distance to one another. NREN partners have witnessed in previous implementation experiences that this barrier is especially challenging for traditional energy efficiency programs to resolve. This is because energy efficiency programs are often designed to work in larger urban areas with logic models and process flows that are not designed with rural areas in mind. For example, many programs require implementers to make more than one trip to each project site, to conduct initial assessments, pre-project audits, and post project audits. While this is not onerous in an urban setting,

it can drastically decrease service levels, cost effectiveness, and program participation in rural communities. NREN understands that by focusing on local community implementers, customizing program approaches for different communities, and using digital outreach methods when appropriate, each NREN partner can reach their community members in an effective and unique way. This greatly reduces the challenges presented by this barrier.

The second barrier identified by NREN is that there is often a lack of energy efficiency awareness and literacy in many rural communities compared to urban communities¹. This education gap is one of the key factors that can reduce the effectiveness of energy conservation or energy efficiency campaigns in our communities. NREN partners have identified two key awareness-related factors that this program seeks to address. First, there are less educational materials, marketing materials, and other resources directed to our communities, often due to the geographic isolation barrier mentioned above. Second, messages and educational resources that do reach our communities are often not designed with rural customers in mind. This can sometimes make messaging feel tone-deaf and create a perception amongst rural customers that the messaging was not designed for them and is therefore not relevant¹. NREN partners are embedded within our communities, and this is crucial in increasing effective education and outreach in our regions, as well as in deploying messaging that resonates with local residents and workers.

The third barrier identified by NREN is the high first cost of energy efficiency. A combination of lower income levels, high energy usage intensity, and higher price volatility of non-utility fuels (e.g., propane) result in a high energy burden for many individuals in rural communities.² The first cost of energy efficiency projects is a significant barrier and creates situations where the customers who would most benefit from energy efficiency improvements can least afford it. This program focuses on addressing the first cost barrier by collaborating across programs and partners to unlock the energy efficiency potential we know exists in our communities. We provide immediate, no-cost, easy wins, such as LED light bulbs through the energy efficiency kits and the in-home energy assessments as well as a clear pathway to identifying opportunities, accessing incentives and funding to complete more retrofits through the energy reports and referrals.

The final barrier identified by NREN is that there is often low energy efficiency program engagement from rural customers. This is partly due to the combination of the three barriers mentioned above. However, there is a key additional element that contributes to low program participation: lack of trust. When program implementers reach rural customers, they are often met with skepticism³. This is often because implementers are not local and community members feel that a non-trusted source is entering their community for the sole purpose of selling a product. This can be especially detrimental to program participation since one unsuccessful outreach campaign can influence whole communities to not participate in future programs. NREN partners are already trusted within our communities to act as advisors and educators. This program focuses on continuing to build trust with our communities and continuing to act as a bridge for our communities to access resources.

In conclusion, NREN believes it is crucial for policymakers to understand that rural residential customers are not actively choosing to ignore programs and energy efficiency opportunities. Rather, the combination of the four barriers mentioned above, along with policies and programs that are not designed in a way that enables participation, drive poor outcomes. Further, because we know that what

gets counted is what gets funded, this lack of rural residential energy efficiency participation can drive a vicious cycle where rural customers are not valued as a source of potential energy savings, and therefore, rural communities receive less resources. This program seeks to address all four barriers with our locally customized and innovative program activities. This will help break this cycle and show that with appropriate support, rural communities represent a deep untapped source of energy savings.

5. Innovation:

Rural customers have traditionally suffered a higher-than-average energy burden while receiving fewer ratepayer-funded energy efficiency services. Among the reasons for this service gap are the challenges third-party implementers face serving rural communities under current cost effectiveness requirements. Rural customers are more dispersed, take longer to reach geographically, and have less engagement with programs designed and marketed to serve more urban customers. The circumstances may also work to aggravate a lack of trust rural communities may have for outside implementers or understanding of the value proposition for participation. To date, energy efficiency programs have been developed and implemented from outside rural and tribal communities.

The NREN partners intend to address this issue through the innovative approach of emphasizing locally designed, marketed, and delivered programs. While building on decades of experience serving rural and tribal communities with energy and other community essential services, NREN also intends to complete a comprehensive Needs Assessment to further identify and prioritize gaps in services. Services will be marketed in a manner addressing identified rural priorities of reducing energy burdens and increasing resilience, as well as decarbonization and energy efficiency. NREN will build on trusted relationships with CBOs and other key market actors to meet rural customers where they are and speak to the unique value metrics that are meaningful to them.

NREN's additional focus is on strengthening existing positive relationships with Tribal governments. Evidence of this is that two federally recognized Tribal governments serve on the NREN Lead Portfolio Administrator's Board of Directors.

6. Pilots:

N/A

7. Workforce Education and Training:⁴

(Applicable to WE&T programs only.)

⁴ D.18-05-041, pages 20-21 and Ordering Paragraph 7

N/A

8. Workforce Standards:⁵

This program does not offer services that include the installation of HVAC equipment or advanced lighting controls. The General Workforce Standards set forth by the CPUC shall apply.

9. Disadvantaged Worker Plan:⁶

NREN's Residential Equity Program does not specifically target disadvantaged workers. However, increasing rural energy efficiency awareness and access to energy efficiency services will create additional opportunities for disadvantaged workers that will be further addressed in NREN's other programs, specifically Workforce Education and Training and Residential and Commercial Resource Acquisition Programs.

10. Market Access Programs:

N/A

11. Additional information:

None

Supporting Documents

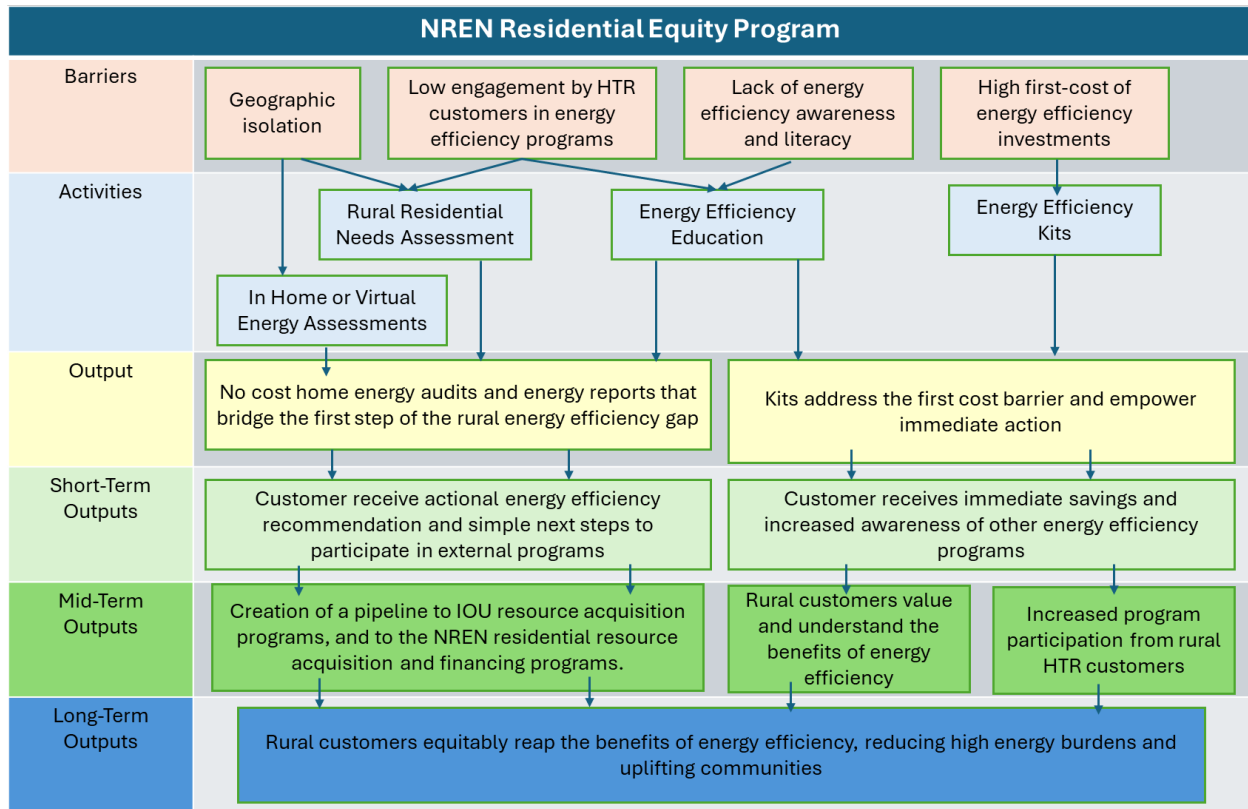
1. Program Manual and Program Rules

Program Manual will be submitted as Attachment A.

⁵ D.18-10-008, Ordering Paragraph 1-2 and Attachment B, Section A-B, page B-1

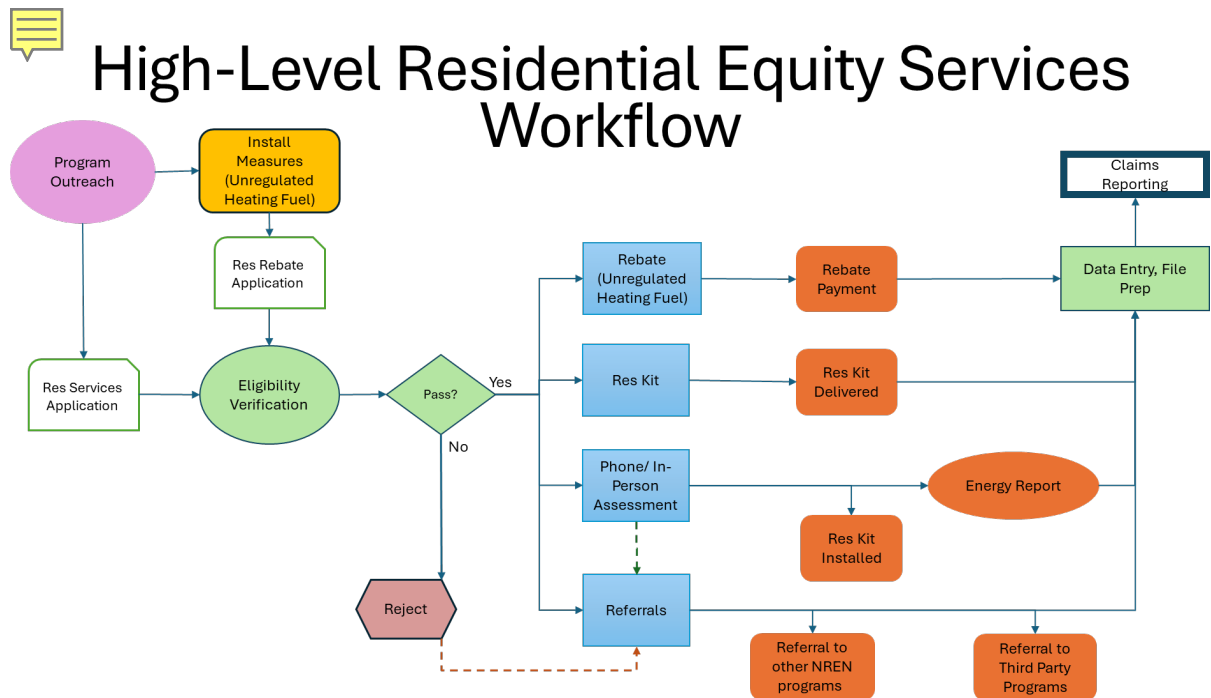
⁶ D.18-10-008, Attachment B, Section D, page B-9

2. Program Theory and Program Logic Model:⁷



⁷ The graphical representation of the program theory showing the flow between activities, their outputs, and subsequent short-term, intermediate, and long-term outcomes. California Evaluation Framework, June 2004

3. Process Flow Chart:



4. Measures and Incentives:

The Program will offer the following measures:

Workpaper	Measure Name	Incentive
SWAP003*	Heat Pump Clothes Dryer, Residential, Fuel Switching	\$1,000.00
SWAP015*	Cooking Appliances, Residential, Fuel Switching (induction)	\$1,200.00
SWBE006*	Ceiling Insulation, Residential	\$3.00
SWBE007*	Wall Insulation, Residential	\$1.70
SWHC039*	Smart Thermostat, Residential (Direct Install)	\$150.00
SWSV001*	Duct Seal, Residential	\$0.69
SWWH001	Faucet Aerator, Residential	\$10.00
SWWH002	Low-Flow Showerhead, Residential	\$40.00
SWWH025*	Heat Pump Water Heater, Residential, Fuel Switching	\$3,000.00
SWWH026	Water Heater Pipe Wrap, Residential	\$20.00

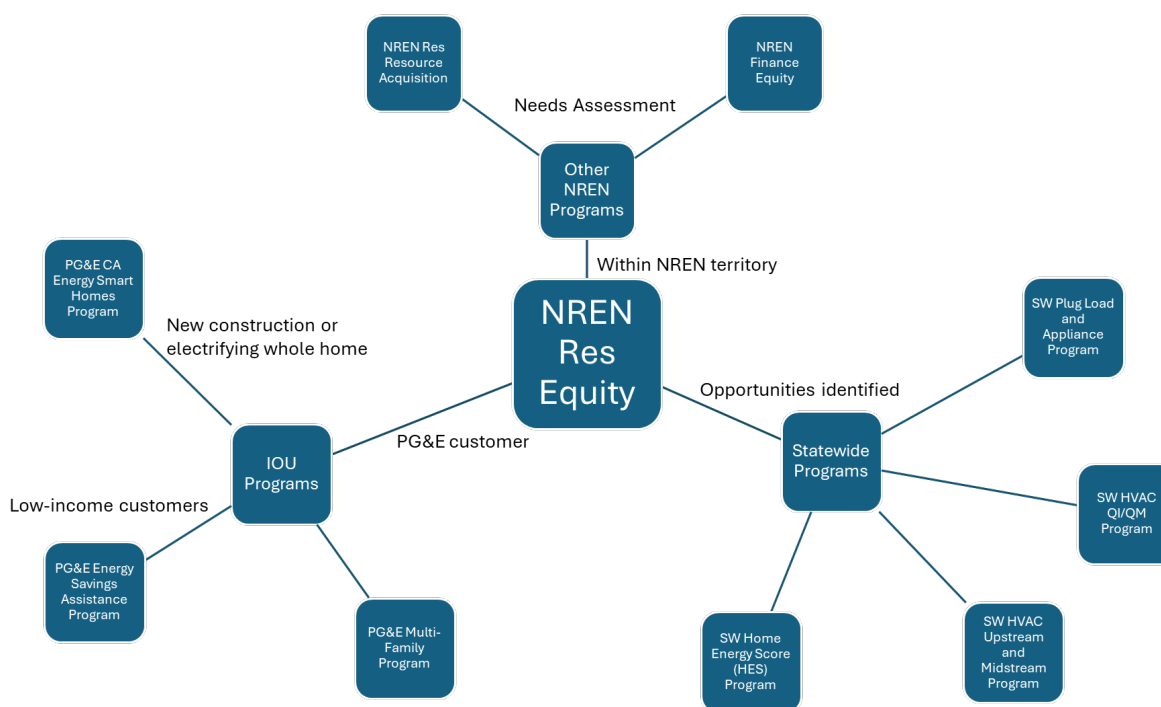
*The eTRM workpapers are linked, however, only the electric savings will be reported and the therms savings will be converted into propane and GHG equivalents and will be reported in the annual report.

Measure Application Types	Baseline	Incentive calculation	Custom Cap	Deemed Cap
NR	Code/ISP	100% of IMC	NA	100% of IMC
AR	Existing	100% of FMC	NA	100% of FMC
AOE	Existing	100% of IMC	NA	100% of IMC

Software Tools

There will be no software tools used to calculate incentives or savings.

5. Diagram of Program:



6. Program Measurement & Verification (M&V):

NREN plans to conduct a broad assessment of the current status and needs of residential customers in the NREN Region that will inform the priority and design of additional program elements to be rolled out in the near future. Following program launch, NREN will collect and analyze program data on an ongoing basis as part of a feedback loop to inform continuous improvement in program delivery and outcomes.

7. Normalized Metered Energy Consumption (NMEC) Program M&V Plan:

Not applicable at this time. NMEC may be integrated into this program in the future if it is found to be feasible and cost effective.

8. Multi-DER IDSM Pilots only:⁸

NREN intends to submit a Tier 3 Advice Letter for approval of IDSM activities to be integrated into the residential equity program. This will be in the form of technical support and education related to resilience and electric vehicles.

⁸ D.23-06-055, pages 77-80