

Key Elements for State Energy Office Program Design and Implementation

In response to the NASEO RFI

Implementation Options for Home Energy Performance-Based Whole-House Rebate Program and High-Efficiency Electric Home Rebate Program

Nikki Kuhn
nkuhn@veic.o

Disclaimer

VEIC authorizes NASEO to publish and distribute this response to the NASEO RFI on its website and through other means to the states and general public. We have included no confidential or proprietary information in our response.

Signed,

Nikki Kuhn

mon

Director, Consulting

nkuhn@veic.org

1-802-540-7812



Category 1. Comprehensive Program Design

Company Characteristics

VEIC offers high-impact energy solutions that decarbonize buildings, transportation, and utility grids, today.

For 37 years VEIC has helped its clients meet their clean energy goals through innovative and equitable solutions that benefit the clients, their partners, and their communities. VEIC has expertise in energy efficiency, building decarbonization, transportation electrification, and demand management for a clean and flexible grid. We are nationally recognized for programs and pilots that optimize energy use, reduce energy burdens for low-income customers, and advance emerging technologies and innovative program models. A key element of this work is teaming with local communities, including underserved areas and those facing high energy burdens, to ensure solutions are designed and delivered to address local priorities.

In addition to our full-service consulting business, VEIC administers three large-scale sustainable energy programs: Efficiency Vermont, Efficiency Smart, and the DC Sustainable Energy **Utility** (DCSEU), and serves on the program administration teams for **CalNEXT**, **Focus on Energy** (Wisconsin), Hawaii Energy, and TECH Clean California. Each of these programs includes a significant focus on serving low- and moderate-income (LMI) households and disadvantaged communities. In 2020, more than half of the lifetime customer benefits of VEIC's work was in socially vulnerable communities, as measured using the **Social Vulnerability Index**. Our work since 2000 will reduce GHG emissions by more than 112 million metric tons.

VEIC RFI contact: Nikki Kuhn | Director, Consulting | 802-540-7812 | nkuhn@veic.org

Our approach to Diversity, Equity, Inclusion, and Accessibility (DEIA)

Across our work in decarbonizing buildings, we prioritize equity and affordability to ensure that all people and communities can participate in the clean energy transition. Our Articles of Incorporation define our purpose to reduce "energy costs for consumers, particularly low-income consumers" and to engage in economic development that benefits communities. We understand that not all costs and benefits are shared equally and that programs impact those who may not have the deepest pockets or loudest voices.

Our experience

VEIC regularly collaborates with state agencies to advance clean energy priorities. We partnered with State energy offices (SEOs) in Missouri, Pennsylvania, and Vermont in successfully applying for competitive State Energy Program Community Block Grants to the U.S. Department of Energy (DOE). For these projects, VEIC supported application development, provided subject matter expertise, or used its relationships with federal agency and National Laboratory staff to help State governments secure funding. We have also provided technical assistance to SEOs. In New Hampshire, VEIC provided technical assistance and supported stakeholder engagement for the Energy Efficiency Resource Standard Committee of the Public Utilities Commission to set direction for utility energy



efficiency. For the Maryland Office of People's Council, VEIC comprehensively evaluated utility residential and low-income energy efficiency plans and recommended program modifications and new policy frameworks to maximize statewide impacts and benefits.

This table describes VEIC's range of federal and State program planning, administration and field delivery work.

Program Planning

VEIC designs programs, assesses markets, and models scenarios for achieving clean energy and equity goals.

Project Examples

Focus on Energy: Future Focus Initiative - Emerging Technologies and Pilots. In partnership with APTIM, VEIC administers this program that reviews and tests concepts and technologies that can expand the Focus on Energy portfolio. It also ensures that offerings continue to achieve energy savings, customer satisfaction, and market transformation goals. VEIC identifies and prioritizes projects with inclusive design to support low- and moderate-income and disadvantaged communities (DACs).

<u>CalNEXT</u> – Emerging Technologies and Pilots. In partnership with Energy Solutions, VEIC leads market scanning and screening program design and implementation to identify, test, and grow electric energy technologies and delivery methods that can support achievement of California's aggressive climate goals. VEIC ensures that projects support LMI and DAC customers. VEIC administers projects ensuring that DACs have access to efficient HVAC, water heating, and whole-building technologies.

Market Guidance to Scale Zero-Carbon-Aligned Residential Buildings – Building Decarbonization Best Practices. VEIC is on the team of DOE's Advanced Building Construction (ABC) Collaborative, the nation's primary organization for modernizing of the U.S. construction industry. The team provided quidance for industry stakeholders on performance specifications and cost targets for transitioning U.S. residential buildings to zero carbon through industrial construction solutions.

Beneficial Electrification Roadmap: LMI Chapter (Client: NYSERDA) – Program Planning and Policy. VEIC is responsible for chapter content on LMI building typologies and market segments across New York State. VEIC also is researching energy burden implications of electrification and ways to avoid shifting utility costs from owners to LMI multifamily building residents.

Affordable Housing Portfolio Decarbonization Roadmapping Tool (Client: Stewards of Affordable Housing for the Future) - Decarbonization Tools and Strategies. In partnership with Bright Power, VEIC is supporting the development of a portfolio scale tool for that provides input housing stock data and examines scenarios of deploying decarbonization measures across various segments of housing portfolios to see how best to reach DOE's Better Climate Challenge goals of 50% GHG reduction by 2030.

Program Administration

VEIC manages sustainable energy programs that that optimize energy use, reduce energy burdens for lowincome customers, and advance emerging technologies and innovative program models.

Project Examples

Efficiency Vermont - Energy Efficiency Portfolio Administration. VEIC has operated Efficiency Vermont, the nation's longest-running statewide energy efficiency utility, since its inception in 2000. The program has cumulatively achieved \$3 billion in energy and water savings for the state's 635,000 residents and businesses. It has also eliminated 13 million tons of carbon dioxide emissions. Operating under an Order of Appointment from the Vermont Public Utility Commission, Efficiency Vermont also staffs a research-



and-development activity, annually reporting project results to regulators. Efficiency Vermont offers incentives to utility customers, contractors, and the supply chain to achieve its performance goals. Efficiency Vermont selects 4-6 Vermont communities with disproportionally high energy burdens to receive tailored services each year. Efficiency Vermont also partners with Community Action Agencies deliver efficiency retrofits to low-income households and quantify the health and safety benefits of weatherization.

<u>District of Columbia Sustainable Energy Utility</u> – Energy Efficiency and Renewable Energy Portfolio Administration. VEIC operates the DCSEU under a long-term contract with the Government of the District of Columbia and is overseen by the **Department of Energy & Environment**. Since 2011, it has saved District residents and businesses \$1.3 billion in lifetime energy costs, and eliminated 7 million metric tons of greenhouse gas emissions. It has also invested \$50 million in energy efficiency and renewable energy measures for low-income communities. It spends 30% of its energy efficiency program budget and 100% of its solar program budget to benefit low-income residents. The DCSEU also operates a Workforce Development program to train unemployed and underemployed individuals in the green economy, and has placed 85% of these trainees in full-time employment.

Field Delivery

VEIC delivers clean energy programs to LMI communities.

Project Examples

DC Affordable Housing Retrofit Accelerator - Multifamily Programs. VEIC designs and implements this enhanced technical support and financial assistance program for affordable multifamily buildings that do not yet meet the District's Building Energy Performance Standards (BEPS). VEIC trains building owners and managers on the BEPS and compliance pathways, identifying useful resources and providing technical support.

TECH Clean California – Residential HVAC and Water Heating Electrification. In partnership with Energy Solutions, VEIC runs several programs and pilots designed to overcome barriers to building electrification among low-income households, multifamily building owners and renters, and disadvantaged to communities. VEIC coordinated a Quick Start Grants (QSG) program to fund local, vanguard approaches to accelerate deployment of heat pump space and water heating technologies. Over 70% of the overall grant budget was allocated to projects that benefit low-income households, DACs, or other underserved customers.

Program-In-A-Box: Heat Pump Adoption Roadmap

Electric heat pumps enable buildings to transition away from using fossil fuels and to tap into the growing supply of renewable electricity.

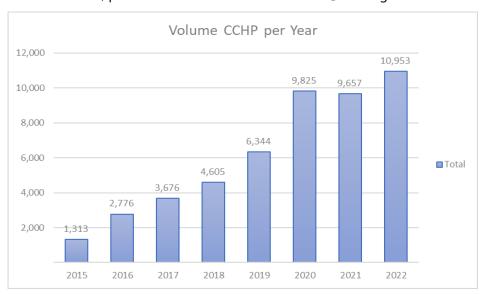
This technology has the potential to reduce or eliminate the need for fossil fuels in heating air or water by tapping into the growing supply of renewable electricity. What's more, unlike fossil-fired heating technologies, which typically lose efficiency over time, the GHG benefit of heat pumps increases as the electric grid becomes cleaner and more efficient.

Heat pumps can also provide cost savings for homeowners and businesses, particularly compared to oil and electric resistance heating systems. While switching from fossil fuels to heat pumps can



reduce emissions from heating by 60% or more, maximizing their environmental benefit depends on the policies, programs, and mechanisms used to increase their adoption. Advancing the heat pump market requires a strategic approach.

In 2014, VEIC established itself as a national leader in program and supply channel strategies to drive adoption of heat pumps when Efficiency Vermont launched a midstream cold-climate heat pump program. Staff directly enlisted distributor and manufacturer support to increase the number of stocked units and spur customer and contractor adoption of ductless mini-splits. See results in the graph below. To learn more, please contact Nikki Kuhn at nkuhn@veic.org.



Volume of CCHP Installation per Year in Vermont, 2015-2022

VEIC was also hired by the Natural Resources Defense Council (NRDC) to study policies and programs in the Northeast. We identified the key factors driving successful heat-pump deployment in this region and leveraged the learnings to generate a set of recommendations for other regions to realize the full value of this promising technology.

State energy offices can utilize the proven approaches that led to VEIC's success to implement their own heat pump programs and rapidly increase heat pump adoption.

Market Conditions

Policy Landscape. In 2015, Vermont became the first state to establish an integrated renewable energy standard, making utilities responsible both for supplying renewable energy and supporting customers' reduction in fossil fuel use. Heat pumps were identified in 2016 as a mechanism to transform building heat from fossil fuels to renewable energy and help meet the state's goal of providing 30% of building energy through renewable sources by 2025. Efficiency Vermont operates under an Order of Appointment from the **Vermont Public Utility Commission**.

Supply Chain Readiness. Efficiency Vermont's Efficiency Excellence Network, which uses qualified contractor networks to support program success by providing technical and program training, stood ready to leverage partnerships and expertise to meet demand.



Implementation Proposal

Through our experience and our research, we have found that the most successful programs combine two factors:

Direct engagement with contractors and distributors so that the products are available from knowledgeable installers, and

Significant incentives (at least a \$500 cash incentive per unit) to encourage customers to choose them.

Other key success indicators:

Midstream Support

- Program design that is customized to the local market
- Support for distributors
- · Supply chain engagement
- Ongoing technical support for customers and contractors as the technology evolves
- Dedicated account management staff to support supply chain partners

Customer Engagement

- Power of a trusted brand
- Utilize various channels (social, website, CBOs, etc.) to meet the needs of a variety of customers

Contractor Network

- Adequate capacity to meet program goals
- Vetted and consistently supported with training and quality assurance
- Easily accessible on website
- Information sharing throughout the network

Simplicity

- Easy-to-navigate programs
- Consistent offers
- Partnership with utilities

Types of Implementation Partners

- Existing energy efficiency program implementers
- Distributors and manufacturers of qualified products
- Utilities
- Contractors
- Housing providers



Category 2. Program Elements

Company Characteristics

VEIC offers high-impact energy solutions that decarbonize buildings, transportation, and utility grids, today.

For 37 years VEIC has helped its clients meet their clean energy goals through innovative and equitable solutions that benefit the clients, their partners, and their communities. VEIC has expertise in energy efficiency, building decarbonization, transportation electrification, and demand management for a clean and flexible grid. We are nationally recognized for programs and pilots that optimize energy use, reduce energy burdens for low-income customers, and advance emerging technologies and innovative program models. A key element of this work is teaming with local communities, including underserved areas and those facing high energy burdens, to ensure solutions are designed and delivered to address local priorities.

In addition to our full-service consulting business, VEIC administers three large-scale sustainable energy programs: Efficiency Vermont, Efficiency Smart, and the DC Sustainable Energy **Utility** (DCSEU), and serves on the program administration teams for **CalNEXT**, **Focus on Energy** (Wisconsin), Hawaii Energy, and TECH Clean California. Each of these programs includes a significant focus on serving low- and moderate-income (LMI) households and disadvantaged communities. In 2020, more than half of the lifetime customer benefits of VEIC's work was in socially vulnerable communities, as measured using the **Social Vulnerability Index**. Our work since 2000 will reduce GHG emissions by more than 112 million metric tons.

VEIC RFI contact: Nikki Kuhn | Director, Consulting | 802-540-7812 | nkuhn@veic.org

Our approach to Diversity, Equity, Inclusion, and Accessibility (DEIA)

Across our work in decarbonizing buildings, we prioritize equity and affordability to ensure that all people and communities can participate in the clean energy transition. Our Articles of Incorporation define our purpose to reduce "energy costs for consumers, particularly low-income consumers" and to engage in economic development that benefits communities. We understand that not all costs and benefits are shared equally and that programs impact those who may not have the deepest pockets or loudest voices.

Our experience

VEIC regularly collaborates with state agencies to advance clean energy priorities. We partnered with State energy offices (SEOs) in Missouri, Pennsylvania, and Vermont in successfully applying for competitive State Energy Program Community Block Grants to the U.S. Department of Energy (DOE). For these projects, VEIC supported application development, provided subject matter expertise, or used its relationships with federal agency and National Laboratory staff to help State governments secure funding. We have also provided technical assistance to SEOs. In New Hampshire, VEIC provided technical assistance and supported stakeholder engagement for the Energy Efficiency Resource Standard Committee of the Public Utilities Commission to set direction for utility energy



efficiency. For the Maryland Office of People's Council, VEIC comprehensively evaluated utility residential and low-income energy efficiency plans and recommended program modifications and new policy frameworks to maximize statewide impacts and benefits.

This table describes VEIC's range of federal and State program planning, administration and field delivery work.

Program Planning

VEIC designs programs, assesses markets, and models scenarios for achieving clean energy and equity goals.

Project Examples

Focus on Energy: Future Focus Initiative - Emerging Technologies and Pilots. In partnership with APTIM, VEIC administers this program that reviews and tests concepts and technologies that can expand the Focus on Energy portfolio. It also ensures that offerings continue to achieve energy savings, customer satisfaction, and market transformation goals. VEIC identifies and prioritizes projects with inclusive design to support low- and moderate-income and disadvantaged communities (DACs).

CalNEXT – Emerging Technologies and Pilots. In partnership with Energy Solutions, VEIC leads market scanning and screening program design and implementation to identify, test, and grow electric energy technologies and delivery methods that can support achievement of California's aggressive climate goals. VEIC ensures that projects support LMI and DAC customers. VEIC administers projects ensuring that DACs have access to efficient HVAC, water heating, and whole-building technologies.

Market Guidance to Scale Zero-Carbon-Aligned Residential Buildings – Building Decarbonization Best Practices. VEIC is on the team of DOE's Advanced Building Construction (ABC) Collaborative, the nation's primary organization for modernizing of the U.S. construction industry. The team provided quidance for industry stakeholders on performance specifications and cost targets for transitioning U.S. residential buildings to zero carbon through industrial construction solutions.

Beneficial Electrification Roadmap: LMI Chapter (Client: NYSERDA) – Program Planning and Policy. VEIC is responsible for chapter content on LMI building typologies and market segments across New York State. VEIC also is researching energy burden implications of electrification and ways to avoid shifting utility costs from owners to LMI multifamily building residents.

Affordable Housing Portfolio Decarbonization Roadmapping Tool (Client: Stewards of Affordable Housing for the Future) - Decarbonization Tools and Strategies. In partnership with Bright Power, VEIC is supporting the development of a portfolio scale tool for that provides input housing stock data and examines scenarios of deploying decarbonization measures across various segments of housing portfolios to see how best to reach DOE's Better Climate Challenge goals of 50% GHG reduction by 2030.

Program Administration

VEIC manages sustainable energy programs that that optimize energy use, reduce energy burdens for lowincome customers, and advance emerging technologies and innovative program models.

Project Examples

Efficiency Vermont - Energy Efficiency Portfolio Administration. VEIC has operated Efficiency Vermont, the nation's longest-running statewide energy efficiency utility, since its inception in 2000. The program has cumulatively achieved \$3 billion in energy and water savings for the state's 635,000 residents and businesses. It has also eliminated 13 million tons of carbon dioxide emissions. Operating under an Order of Appointment from the Vermont Public Utility Commission, Efficiency Vermont also staffs a research-



and-development activity, annually reporting project results to regulators. Efficiency Vermont offers incentives to utility customers, contractors, and the supply chain to achieve its performance goals. Efficiency Vermont selects 4-6 Vermont communities with disproportionally high energy burdens to receive tailored services each year. Efficiency Vermont also partners with Community Action Agencies deliver efficiency retrofits to low-income households and quantify the health and safety benefits of weatherization.

<u>District of Columbia Sustainable Energy Utility</u> – Energy Efficiency and Renewable Energy Portfolio Administration. VEIC operates the DCSEU under a long-term contract with the Government of the District of Columbia and is overseen by the **Department of Energy & Environment**. Since 2011, it has saved District residents and businesses \$1.3 billion in lifetime energy costs, and eliminated 7 million metric tons of greenhouse gas emissions. It has also invested \$50 million in energy efficiency and renewable energy measures for low-income communities. It spends 30% of its energy efficiency program budget and 100% of its solar program budget to benefit low-income residents. The DCSEU also operates a Workforce Development program to train unemployed and underemployed individuals in the green economy, and has placed 85% of these trainees in full-time employment.

Field Delivery

VEIC delivers clean energy programs to LMI communities.

Project Examples

DC Affordable Housing Retrofit Accelerator - Multifamily Programs. VEIC designs and implements this enhanced technical support and financial assistance program for affordable multifamily buildings that do not yet meet the District's Building Energy Performance Standards (BEPS). VEIC trains building owners and managers on the BEPS and compliance pathways, identifying useful resources and providing technical support.

TECH Clean California – Residential HVAC and Water Heating Electrification. In partnership with Energy Solutions, VEIC runs several programs and pilots designed to overcome barriers to building electrification among low-income households, multifamily building owners and renters, and disadvantaged to communities. VEIC coordinated a Quick Start Grants (QSG) program to fund local, vanguard approaches to accelerate deployment of heat pump space and water heating technologies. Over 70% of the overall grant budget was allocated to projects that benefit low-income households, DACs, or other underserved customers.

Program Elements

Our program planning, design, and implementation support looks at residential programs through an LMI framework. Our experience demonstrates that when underserved community members are the priority for planning, designing, and implementing phases, programs have more success. We use stakeholder engagement, research market conditions, and accurately interpret State priorities. This approach results in tailored programs to fit stakeholder needs. We are thus able to reach vulnerable community members that need the funding and decarbonization improvements the most.



We encourage State Energy Offices to consider the following:

Task

Program landscape mapping and gap analysis. It will be essential for SEOs to understand the challenges ahead. Before taking action on any new energy programs, States should comprehensively map existing resources and determine the needs of the prioritized populations they are trying to serve.

Partner collaboration planning. SEOs can drive demand by using partnerships with other entities. Creating partnership agreements now can lay the groundwork for future project success.

Stakeholder engagement. Achieving agreement on opportunities demands engaging stakeholders throughout the state. Determining key constituencies is important, as is paying close attention to those whom traditional energy efficiency measures do not reach. This work can be made more effective if stakeholders include lending institutions, affordable housing providers, HVAC contractors and distributors, nonprofits, and community-based organizations (CBOs).

Heat pump market assessment. With this increasingly valuable, high-efficiency technology awaiting widespread deployment, it will be important to analyze and document the current state of the supply chain: contractors, distributors, manufacturers' reps, and retail chains. This can be achieved by determining which training resources can drive market expansion.

Program design: Framework. Because prioritizing vulnerable and disadvantaged populations reduces social costs, SEOs should design program frameworks that address the needs of the most vulnerable populations. Creating programs that are market- and customer-friendly, and considering financing structures that will be easily accessible for LMI customers are both important functions for sound program design. Designing evaluation, measurement, and verification (EM&V) protocols is also necessary. These will enable adequate tracking, verification, and reporting on installations.

Program design: Incentives and financing. SEOs can respond to their regional needs by encouraging relationships among lenders, State and local agencies, nonprofits, and CBOs for each region. Encouraging these organizations to combine Inflation Reduction Act (IRA) incentives and rebates with other funding elements will also be critical to success. SEOs can change the conversation and expand access to financing options by defining guidelines relating to risk assessment and best-practice models for green banks, Community Development Financial Institutions (CDFIs), credit unions, and other lenders.

Program design: Social and energy equity / LMI. SEOs can address federal Justice40 goals and requirements by targeting program design to communities meeting vulnerability statuses in the **Social** <u>Vulnerability Index (ATSDR / CDC)</u>. Programs should be designed and implemented in partnership with the communities served to increase participation and local economic benefits.

Program oversight and implementation support. Support for SEOs during implementation with troubleshooting, reporting, and continuous improvement will prevent missteps before they happen.

RFP and Contract Language

It will be important for Prime Contractor applicants to demonstrate their facility and ease in reaching out to and serving populations at or below 120 percent of Area Median Income. Their experience must be deep enough—with verified energy savings claims compared to program goals—to show how this can be achieved. Serving this population as if it were "just a different segment" of the customer market does not indicate likely success.



Category 3. Indication of Vendor Interest

Company Characteristics

VEIC offers high-impact energy solutions that decarbonize buildings, transportation, and utility grids, today.

For 37 years, VEIC has helped our clients meet their clean energy goals through innovative and equitable solutions that benefit them, their partners, and their communities. VEIC has expertise in energy efficiency, building decarbonization, transportation electrification, and demand management for a clean and flexible grid. Our 320-person staff includes program designers, project managers, marketing and outreach specialists, engineers, and technical experts. VEIC is nationally recognized for programs and pilots that optimize energy use, reduce energy burdens for low-income customers, and advance emerging technologies and innovative program models. In addition to our full-service consulting business, VEIC administers three large-scale sustainable energy programs: Efficiency Vermont, Efficiency Smart, and the DC Sustainable Energy Utility (DCSEU), and serves on the program administration teams for CalNEXT, Focus on Energy (Wisconsin), Hawaii Energy and **TECH Clean California.**

VEIC RFI contact: Nikki Kuhn | Director, Consulting | 802-540-7812 | nkuhn@veic.org

Our approach to Diversity, Equity, Inclusion, and Accessibility (DEIA)

Across our work in decarbonizing buildings, we prioritize equity and affordability to ensure that all people and communities can participate in the clean energy transition. Our Articles of Incorporation define our purpose to reduce "energy costs for consumers, particularly low-income consumers" and to engage in economic development that benefits communities.

Our experience

VEIC regularly collaborates with state agencies to advance clean energy priorities. This table describes VEIC's range of federal and State program planning, administration and field delivery work (see Categories 1 & 2 for more detailed project descriptions).

Program Planning Example

VEIC designs programs, assesses markets, and models scenarios for achieving clean energy and equity goals.

CalNEXT – Emerging Technologies and Pilots. In partnership with Energy Solutions, VEIC leads market scanning and screening program design and implementation. VEIC ensures that projects support lowand moderate-income (LMI) customers. VEIC administers projects ensuring that disadvantaged communities (DACs) have access to efficient HVAC, water heating, and whole-building technologies.

Program Administration Example

VEIC manages sustainable energy programs that that optimize energy use, reduce energy burdens for lowincome customers, and advance emerging technologies and innovative program models.

Efficiency Vermont - Energy Efficiency Portfolio Administration. VEIC has operated Efficiency Vermont, the nation's longest-running statewide energy efficiency utility, since its inception in 2000. The program



has cumulatively achieved \$3 billion in energy and water savings for the state's 635,000 residents and businesses. It has also eliminated 13 million tons of carbon dioxide emissions. Efficiency Vermont selects 4-6 Vermont communities with high energy burdens to receive tailored services each year.

Field Delivery Example

VEIC delivers clean energy programs to LMI communities.

DC Affordable Housing Retrofit Accelerator – Multifamily Programs. VEIC designs and implements this enhanced technical support and financial assistance program for affordable multifamily buildings that do not yet meet the District's Building Energy Performance Standards (BEPS).

Company Summary

VEIC has a strong interest in supporting State Energy Offices. Our clients consider us a trusted advisor that both understands the IRA environment and can ensure equitable deployment of IRA funds. As a neutral third-party nonprofit organization, VEIC can support State Energy Offices with well-tested and verified planning, design, and implementation support for the following tasks:

Task / Phase

Pre-program Planning

Program landscape mapping and gap analysis

Residential building stock review

Partner collaboration planning

Heat pump market assessment

Stakeholder engagement (pre-program)

Program Design and Implementation Support

Program design:

- Framework
- Incentives and financing
- Social and energy equity / LMI
- Technical project / equipment guidelines and eligibility criteria
- Marketing

EM&V planning

Implementation RFP development

Program oversight and implementation support

Stakeholder engagement (throughout program)

Scenario Modelina

Baseline model creation

Business as usual projections

Net zero emissions scenario modeling

