Beneficial Electrification League

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

Submitted by Keith Dennis, President, Beneficial Electrification League

The Beneficial Electrification League is pleased to submit the following response to the National Association of State Energy Officials' Request for Information (RFI) on implementation of two federal programs: the Home Energy Performance-Based Whole House Rebate Program (HOMES) and High-Efficiency Electric Home Rebate Program (HEEHR).

The Beneficial Electrification League (BEL), a 501(c)(3) not-for-profit organization, seeks to accelerate electrification with programs and initiatives that deliver on the environmental imperative of climate change, benefit energy consumers, improve quality of life, and foster a resilient grid.

Specifically, BEL is responding to NASEO's request for a comprehensive program design to be considered by states implementing the new federal programs.

The Beneficial Electrification League 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 by Keith Dennis, President, Beneficial Electrification League

Category 1: Comprehensive Program Design

Company Characteristics

Overall Info The Beneficial Electrification League (BEL), Beneficial Electrification League, a 501(c)(3) organization, Contact: Alex Hofmann, COO, ahofmann@be-league.org

Approach to Diversity, Equity and Inclusion (DEI): BEL has implemented a DEI policy, approved by its board, that drives our work and informs our approach to delivering the benefits of electrification to consumers and communities. A cornerstone of BEL's DEI policy is that "everyone has a responsibility for contributing to a culture which supports and values diversity and inclusion."

BEL seeks to build a respectful, supportive and productive workplace that enables us to attract and retain a diverse workforce that represents our community, and a supportive and productive working environment that enables us to attract and serve diverse members and supporters that represent our community.

Consistent with BEL's priority on equity in the energy transition, BEL has developed national programs to benefit low-income and disadvantaged consumers and their communities.

Short description and links to programming: BEL contracts with the Federal government for support of EPA's clean school bus program, specifically in EPA Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) as part of our Electric School Bus Initiative. In this role, BEL supports electric cooperatives and municipal utilities with electrification programs. BEL is separately funded by foundations and sponsors, including electric cooperatives and municipal governments, to design and implement the Weatherization / Electrification Together Program, a program that helps utilities provide low- and moderate-income customers in disadvantaged communities affordable home energy upgrades by combining home weatherization and electrification. This program includes interaction with state energy offices and participation in NASEO committees as an Affiliate Member.

Program Goals:

The program described below sets forth the concept of a program that leverages rebates available under HEEHR to improve the efficiency of single-family residential buildings to reduce the energy burden for low- and moderate-income households, and simultaneously reduce the greenhouse gas emissions associated with residential housing and strengthen the electric system. This concept follows a template that BEL has developed through its Weatherization/Electrification Together (W/E Together) initiative.

BEL's initiative seeks to improve efficiency of single-family homes by tackling the challenge of heating and cooling from two different directions: first, improve the building envelope to reduce energy loss, and second, install high-efficiency, right-sized electric appliances to reduce the amount of energy needed for heating and cooling. These appliances can also lower peak

demand, reducing stress on the grid. This inside and out approach will lower bills, improve air quality, and when scaled up, can promote a robust, resilient, and equitable energy system.

W/E Together seeks to overcome the economic barriers that prevent low- and moderate-income households from making investments in efficiency. The upfront costs of electrifying existing homes, unaffordable for many low- and moderate-income households using propane and fuel oil, has long been a barrier to upgrades that could reduce consumer energy bills over the long term. The results of weatherization and electrification retrofits conducted by BEL and utility partners indicate that combining weatherization and high-efficiency appliances can overcome economic barriers. W/E Together programmatically increases access to Federal funding incentives that are often too complex or for other reasons previously inaccessible by the household.

The combination is important because electrification without weatherization will miss out on important efficiency gains and, from the consumer's perspective, cost savings and comfort. New equipment could be oversized. Likewise, weatherization without electrification results in missed opportunities to transition consumers off of fossil fuels and strengthen the grid by improving load factor and, in some cases, increased load flexibility capacity.

W/E Together is enabled by several wide-scale industry trends including the significant reduction in greenhouse gases associated with generation of electricity combined with significant improvements in the energy efficiency of end-use appliances such as heat pumps, heat pump water heaters and induction stove cooking.

To implement the program BEL partnered with two rural electric cooperatives to perform deep home energy retrofits that combined weatherization and electrification. The retrofits, all of which entailed switching from propane to electricity, dramatically reduced overall energy consumption and, in turn, reduced the household's energy burden. A cost analysis shows one family's monthly energy bill was cut in half. Expected federal rebates available through the Inflation Reduction Act's HEEHR program will enable electrification and upgrades with minimal or no upfront costs resulting in more comfortable homes and lower bills.

BEL's model relies on a collaborative partnership between public agencies, such as Community Action Partnerships, utilities, contractors, appliance manufacturers and the electric consumers themselves. While home weatherization is a practice that has well-established methods, home electrification, especially through upgrades of existing older homes, is a relatively new activity. Many times, new wiring, upgrades to electric panels, and other electrical work is needed to get the house ready for electrification.

As the Inflation Reduction Act rolls out and rebates become available for HEEHR, having partners in the electric utility sector will be a key to successful Weatherization and Electrification efforts.

A video of BEL's work on Weatherization / Electrification program work is available on our website.

Summary of the implementation model

- The W/E Together model starts with identifying partners. As above, these can include public agencies, such as the state energy office and Community Action Partnerships, utilities, contractors, appliance manufacturers and the electric consumers themselves.
- The list of eligible homes is derived from the list of income-eligible homes identified through the state's weatherization program*. Many electric cooperatives have existing relationships with their consumer members through other energy programs.
- The utility works in close partnership with the contractor(s) to develop the scope of work, beginning with an exterior and interior inspection of the house**.
- The utility and BEL will work to identify the ideal combination of utility, local, and state programs to cover the project.
- The costs not covered by rebate programs can be financed through on-bill financing paid for by energy savings, or through other programs that have funding available for low- and moderate-income household efficiency and emissions improvements.

*Residences that are not deemed eligible because of structural deficiencies may be eligible for other assistance through other housing programs.

**Some utilities have data from energy audit programs that can be used to select houses.

A focus on water heating technology

Electrification of residential water heating, which accounts for approximately 19 percent of residential energy consumption, has emerged as a key strategy in reducing building sector carbon emissions. In addition to efficiency benefits, electric water heaters can act as thermal energy storage.

In a whole home retrofit, deciding whether to keep the existing water heater or install a new system – and if so, which type – is key to unlocking benefits. The optimal technology will depend on many factors, including, perhaps most importantly, the house itself.

New economic research from The Brattle Group and GDS Associates, *Water Heating Economics in a Dynamic Energy Landscape*, analyzed the total societal cost of major water heating technologies across various housing types to determine cost-effective and applicable options.

These findings are consistent with the results of BEL's home energy retrofit demonstration projects. In all cases, weatherizing homes maximizes the benefits of new appliances. The home retrofit projects proved that contractors and utility staff working together can complete weatherization/electrification retrofits quickly and much more efficiently.

Based on this research and the pilot retrofits, BEL recommends flexibility in the rebate program.

15) RFP Language:

Subject: Request for Proposal - Weatherization and Electrification Together Program Implementation Assistance

Dear Prospective Bidders,

[Organization's Name] is seeking proposals from qualified entities to provide expertise and support in designing a Weatherization and Electrification Together Program that would effectively create partnerships with local utilities to design and implement a program that leverages federal, state, and local funding to conduct weatherization and electrification improvements at ideal low and moderate income homesites. The program aims to promote energy efficiency, reduce greenhouse gas emissions, and enhance the quality of life for residents in rural electric cooperative and municipal electric utility areas. Collaboration with key stakeholders such as the local electric utility, contractors, and Community Action Partnerships is a critical aspect of this project to ensure effective community engagement and support.

Project Objectives:

The objective of this project is to assist local utilities in designing a Weatherization and Electrification Together Program that addresses the unique challenges and opportunities present in rural electric cooperative and municipal electric utility areas. The program should encompass residential, commercial, and community-based initiatives, targeting both weatherization and electrification measures. Key project objectives include:

- Program Planning: facilitate the utility development of a program that leverages state local and federal incentives with local contractor or in house capabilities. The program should consider the specific needs, demographics, and challenges of rural and low to moderate income areas served by electric cooperatives and municipal utilities.
- Stakeholder Engagement: Engage and collaborate with rural electric cooperatives, municipal electric utilities to ensure that the program design reflects the perspectives, priorities, and expertise of these stakeholders. Foster effective communication channels and build strong partnerships to facilitate program implementation.
- Technological Solutions: Identify and prioritize weatherization and electrification measures suitable for the local rural electric cooperative and municipal electric utility areas. This includes energy-efficient building upgrades, weatherization measures, electrification of heating, cooling, cooking, and transportation systems, and the integration of renewable energy sources where feasible.
- Program Evaluation and Continuous Improvement: Establish metrics and reporting frameworks to monitor the program's effectiveness, energy savings, greenhouse gas emissions reductions, and cost-benefit analysis.

Proposal Submission Requirements:

Interested bidders are requested to submit proposals addressing the following key components:

- Organizational Experience: Provide an overview of your organization's experience in designing and implementing weatherization and electrification together programs with utilities, particularly in collaboration with rural electric cooperatives, municipal electric utilities. Highlight relevant projects and success stories.
- Program Design Approach: Outline your proposed approach to facilitating the utility planning around a Weatherization and Electrification Program. Describe how you will engage stakeholders, ensure community input, and address the unique needs of rural areas.
- Technical Expertise: Demonstrate your organization's expertise in weatherization and electrification technologies. Describe how you will identify suitable measures and technologies for rural electric cooperative and municipal electric utility areas.
- Financing and Incentive Strategies: Explain how you will help utilities maximize and consider the utilization of available resources, grants, and partnerships to support program implementation.

Category 3: Indication of Vendor Interest

22) Company Characteristics

The Beneficial Electrification League, Beneficial Electrification League, a 501(c)(3) organization, Contact: Alex Hofmann, COO, ahofmann@be-league.org

23) Approach to Diversity, Equity and Inclusion (DEI)

BEL has implemented a DEI policy, approved by its board, that drives our work and informs our approach to delivering the benefits of electrification to consumers and communities. A cornerstone of BEL's DEI policy is that "everyone has a responsibility for contributing to a culture which supports and values diversity and inclusion."

BEL seeks to build a respectful, supportive and productive workplace that enables us to attract and retain a diverse workforce that represents our community, and a supportive and productive working environment that enables us to attract and serve diverse members and supporters that represent our community.

Consistent with BEL's priority on equity in the energy transition, BEL has developed national programs to benefit low-income and disadvantaged consumers and their communities.

24) Brief company background with government contracting

BEL contracts with the Federal government for support of EPA's clean school bus program, specifically in EPA Region 5 (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) as part of our Electric School Bus Initiative. In this role, BEL supports electric cooperatives and municipal utilities with electrification programs. BEL is separately funded by foundations and sponsors, including electric cooperatives and municipal governments, to design and implement the Weatherization / Electrification Together Program (described above in category 1), including interaction with state energy offices and participation in NASEO committees as an Affiliate Member.

25) Company Summary

The Beneficial Electrification League (BEL) specializes in programs that work in coordination with electric cooperatives and municipal utilities. BEL can consult with state energy offices to design and implement programs that work with electric cooperatives and municipal utilities through the Weatherization / Electrification Together platform. This is especially important with electrification projects as they often include electric service and panel upgrades, knowledge of electric systems, and coordination with local partners. BEL can work across geographic areas within a state as a result of our long-standing relationship with electric cooperatives and municipal electric utilities.