

Community Benefits Plan: Job Quality and Equity

Building Grid-edge Integration and Aggregation Network of Thermal Storage ("Building GIANTS")

1. Labor and Community Engagement:

This section outlines BED's current and future work and partnerships the IBEW, other City of Burlington Departments, and community-based organizations that support and work with Burlington's disadvantaged communities.

Local Government/Governance

Burlington, Vermont, home to the University of Vermont, and the birthplace of Ben and Jerry's and Burton Snowboards, sits on the shores of Lake Champlain in northern Vermont. Burlington (population 44,781) is also a refugee resettlement community, with over 48 languages spoken in Burlington Public Schools, including Somali, Bhutanese, Nepalese, Swahili, and others.

Burlington City government is comprised of 16 Departments, including the Burlington Electric Department, a public power utility, responsible for providing reliable and affordable electricity to 17,200 residential and 3,880 commercial customers. In 2014, Burlington (under the auspices of BED) became the first city in the country to source 100% of its electricity from renewables; building on this success, Burlington announced plans to become a Net Zero Energy (NZE) city by 2030 in the ground transportation and building heating sectors.

BED works closely with its peer departments, including the Community and Economic Development Office (CEDO), which is responsible for administering Burlington's Neighborhood Planning Assemblies (NPAs), one of the City's most robust community engagement tools. Created in 1982 under the direction of then-Mayor Bernie Sanders, the NPAs are grassroots, neighborhood organizations hosted in each of Burlington's Wards to encourage civic participation in City government. NPAs are allocated funding and expected to use a democratic process in spending money budgeted to their civic process. City departments are encouraged to bring project and policy ideas that have city-wide impact to all the NPAs, and ward-specific ideas to relevant wards. BED visits with each Ward on a regular basis. For example, between July and September 2022, BED visited the NPAs to gather community feedback about electrification policy recommendations for new construction, major renovations, City buildings and large existing commercial buildings.

Labor Engagement

Approximately two-thirds of BED's workforce are members of the International Brotherhood of Electrical Workers (IBEW) Local 300 and covered by a [Collective bargaining agreement](https://www.burlingtonvt.gov/sites/default/files/2022%20-%202026%20Fully%20Executed%20IBEW-BED%20Agreement_0.pdf) that runs from July 1, 2022 until June 30, 2026¹. The IBEW has actively supported the City's climate goals

¹ 2022-2026 IBEW-BED Collective Bargaining Agreement, 2022.

https://www.burlingtonvt.gov/sites/default/files/2022%20-%202026%20Fully%20Executed%20IBEW-BED%20Agreement_0.pdf

since the initial announcement of the City's [Net Zero Energy Roadmap](#) in 2019². The IBEW [continues](#) to support BED programs and initiatives that accelerate progress to the NZE goal while bolstering quality jobs for union workers³. The City of Burlington has a [livable wage ordinance](#) that applies to outside contractors working with the city. The livable wage is [re-calculated each May](#), becoming effective July 1 of that year⁴.

Should BED be awarded GRIP funding, much of the work would be implemented by BED personnel who are IBEW members, including staff from BED's Policy & Planning and Energy Services (ES) team. The ES team provides energy efficiency assistance to many of Burlington's small, non-profit organizations and subsidized housing providers, most of which directly support Individuals or Families of Color, women heads of household, and/or low-to-moderate income households within census identified disadvantaged communities. This includes the Association of Africans Living in Vermont, the Committee on Temporary Shelter, King Street Center, Richard Kemp Center, the Family Room, the Champlain Valley Office of Economic Opportunity all of which are found in the "Old North End" of the city and covered in census tract #50007000400.

The ES team also collaborates closely with Community Housing nonprofits such as the Champlain Housing Trust, the Burlington Housing Authority and Cathedral Square Corporation. Close collaboration includes being part of the design process as new buildings are being considered, and working closely with the developer and property owner to ensure they are accessing the technical help they need and the financial incentives and resources available to ensure the most energy efficient construction possible. The Champlain Housing Trust, a community land trust that develops and maintains perpetually affordable homes has partnered with BED for decades on energy modeling, the deployment of efficient HVAC systems and cold climate heat pumps.

Thanks to these deep community connections and knowledge of the city's commercial and non-profit building stock, the ES team will be able to offer advice and guidance on how to best support those building most suitable for flexible load management and end use metering.

Community Engagement Plan

Neighborhood Planning Assemblies (NPAs): If BED obtains DOE funding, BED will coordinate with CEDO to visit the NPAs, sharing news on the project and to facilitate community buy-in and support, particularly around heat pump deployment and end use metering.

Trusted Community Voices: BED will also work with CEDO's Trusted Community Voices program to share news and information on the project, and to glean community feedback while updating the community on net zero energy and the important role heat pumps and flexible

² Burlington Net Zero Energy Roadmap (2019). <https://www.burlingtonelectric.com/sites/default/files/inline-files/NetZeroEnergy-Roadmap.pdf>

³ Mayor Weinberger and Burlington Electric Department Propose Net Zero Energy Revenue Bond (2021). <https://www.burlingtonelectric.com/mayor-weinberger-and-burlington-electric-department-propose-net-zero-energy-revenue-bond/>

⁴ Livable Wage Ordinance (2023). <https://www.burlingtonvt.gov/CT/Livable-Wage-Ordinance>

load management in NZE by 2030 success. Born out of Burlington's 2019 Equity Report, the Trusted Community Voices program includes paid members of Burlington's immigrant and refugee communities who strengthen relationships with City departments, including advising on program design and outreach⁵. Trusted Community Voices program includes paid members from the Nepali, Somali, Swahili, Congolese, Burundi, Vietnamese, Arabic and Karen communities.

Committee on Temporary Shelter: COTS is a homeless service provider, offering shelter for individuals and families, homeless prevention services, and permanent affordable housing to those experiencing homelessness. BED has provided rebates and energy expertise in nearly all of COTS's properties; at present BED is working with COTS on its newest construction project -- a 16 unit building of permanent affordable housing targeted to families that will include heat-pump based heating and cooling and a solar array in Burlington.

If GRIP funding is awarded, COTS will partner with BED to deploy use meter devices and possibly engage in commercial-level flexible load control to help save money, thereby keeping commercial rates down and ultimately allowing the City to better face the challenges of extreme weather events and increased demand on the grid.

Hunt Family Room: The Hunt Family Room – a parent-child center in the City's Old North End (to home the majority of Burlington's BIPOC community and included in census tract #50007001000) is housed in the Old North End Community Center and owned by the Champlain Housing Trust – a Community Land Trust that strengthens the city through the development and stewardship of permanently affordable homes and related community assets. BED's Energy Services team regularly offers "energy coaching" sessions for Family Room visitors and serves as a liaison between Family Room clients and property owners. Should DOE funding be granted, BED will use this valuable connection to garner input and feedback on the project, while educating Family Room cliental on Net Zero Energy, load management, and the role of cold climate heat pumps play in moving away from fossil fuels.

Association of Africans Living in Vermont: The Association of Africans Living in VT (AALV) helps new Americans from all parts of the world gain independence in their new communities through a range of integration services, including bridging case management, workforce development, behavioral health awareness, and interpreter services programming. AALV is also located in Champlain Housing Trust's Old North End Community Center, in census tract #50007001000. Should funding be awarded, AALV has offered to partner on project outreach, starting perhaps with BED staff attending several staff meetings.

Burlington 2030 District: In addition to the NPAs, the Trusted Community Voices program, and various community-based non-profits such as COTS, the Hunt Family Room and AALV, BED works are several membership organizations whose clients serve LMI and BIPOC community members and who have offered to assist with project outreach and engagement should DOE

⁵ The City of Burlington 2019 Equity Report (2019).

https://www.burlingtonvt.gov/sites/default/files/tiles/City%20of%20Burlington%202019%20EQUITY%20REPORT_FINAL.pdf

funding be awarded. This includes the Burlington 2030 District, one of twenty-one (21) such Districts around the country committed to supporting greenhouse gas emission reduction in the built environment and ground transportation sectors. The membership base includes subsidized housing providers (such as the Champlain Housing Trust (CHT) and Cathedral Square Corporation) and the Northgate Apartments.

Should funding be allocated, the Burlington 2030 District has specifically offered to share information on the project via its monthly stakeholder meeting, the bi-monthly newsletter and through a dedicated webinar. Burlington 2030 District will recruit project participants from its customer base, including customers that currently deploy heat pumps, and larger customers able to participate in flexible load control.

2. Investing in the American Workforce:

BED understands that a well-qualified, skilled and trained workforce is necessary to ensure project stability, continuity and success. This next section will describe our work to invest in our existing workforce, and attract, train and retain workers as part of the Building GIANTS Project. It will also describe the local prevailing wage and benefits, illustrate how BED ensures workers have a free and fair chance to join a union, describe workforce training to support a skilled workforce and provide pathways to advancement and how we foster safe, healthy, and inclusive workplaces and communities free from harassment and discrimination.

Attracting Workers

BED is committed to providing employment for qualified residents ensuring that people with deep connections to the community are provided with opportunities to remain in the community. The City of Burlington's [Equity Report](#) illustrates that 9% of City employees are people of color (a 7% increase since the prior report in 2018) and 37% are women⁶. The City is committed to diversifying its workforce so that the employees which serve the community become more representative of the individuals they serve. As such, BED posts notices of job openings through Vermont Professionals of Color Network, Vermont Works for Women, the University of Vermont Alumni Association, and Resource (a non-profit job training center). In addition to posting to highly trafficked online news outlets, we also post to field-specific professional organizations (such as the Northeast Public Power Association) and participate in job fairs sponsored by City affiliates.

Investment in Existing Workforce

BED is committed to the growth and advancement of its workers. It offers competitive wages, and as noted, most employees are represented by IBEW Local 300. Employees have access to a breadth of training opportunities, and as technology evolves, workers are provided with time to learn and use tools as the City continues to move towards increased building electrification. In addition to regular trainings offered by the City of Burlington, BED recognizes the need to

⁶ The City of Burlington 2019 Equity Report (2019), 9.

https://www.burlingtonvt.gov/sites/default/files/tiles/City%20of%20Burlington%202019%20EQUITY%20REPORT_FINAL.pdf

develop its human capital to meet the need of an energy landscape which is rapidly transforming.

BED is proud to have recently negotiated a four-year Collective Bargaining Agreement with IBEW Local 300 effective July 1, 2022. The new CBA provides for annual COLAs. The CBA offers the following development tracks which empower employees to further their education and skill development⁷:

- A Career Ladder for positions which allow employees to advance within their respective job level tier through education, experience, and professional development.
- A Voluntary Cross Training program to support internal growth within the organization.
- Educational Aid which provides financial support for the following:
 - A Voluntary Employee Advancement Program for qualified degree programs, professional licenses, or certification within a specific trade
 - Apprenticeship Program for specific technical fields like Line Crew Workers or Meter Technicians.
 - Continuing education for the maintenance and renewal of professional certifications or licenses.

BED additionally has a rigorous Safety Policy in place.⁸ It ensures the safety of its office employees and its field workers. While the Policy and Planning Team will ultimately utilize GRIP funding for program design, the impacts of load management and end use metering will touch many areas of BED's workforce- thus allowing for members of the Energy Services Team, Billing Team, Metering Team, Distribution Team, and Customer Care team to have meaningful skill development to ultimately administer this program to customers. BED's employee programs for skill development and education will help ensure project continuity, stability, and success while also creating a work environment that retains talented and skilled employees.

Investing in inclusive workplaces and communities free from harassment and discrimination

The City of Burlington is committed to creating and investing in inclusive workplaces where staff and community members are free from harassment and discrimination. The City offers mandatory, annual *Respect in the Workplace/Anti-harassment* training for all City employees.

Expanding the Local Workforce

BED understands the achieving NZE by 2030 more generally, and addressing the demands of the GIANTS project, should funding be awarded, BED must bolster the workforce. This includes support to ReSource, a nonprofit community enterprise that focuses on strengthening communities through job training and poverty relief. ReSource hosts multiple paid training programs designed to reskill workers with a focus on carpentry, construction and

⁷ 2022-2026 IBEW-BED Collective Bargaining Agreement (2022), 32-36.

https://www.burlingtonvt.gov/sites/default/files/2022%20-%202026%20Fully%20Executed%20IBEW-BED%20Agreement_0.pdf

⁸ 2022-2026 IBEW-BED Collective Bargaining Agreement (2022), 100.

https://www.burlingtonvt.gov/sites/default/files/2022%20-%202026%20Fully%20Executed%20IBEW-BED%20Agreement_0.pdf

weatherization readiness. Within six months of program completion, approximately 75% of attendees are employed, and all trainees receive OSHA 10 certification. More than 85% of attendees are unemployed or under-employed when entering the program. Program completion also enables workers to enter the workforce with a higher skill level, often translating to higher wages⁹.

Should BED be awarded GRIP funding, it pledges to continue to financially support ReSource, and work collaboratively with ReSource to integrate information on heat pump technology, flexible load technologies and energy management tools into the curriculum. This can also include training ReSource students in how to use and deploy the Sensibo's devices. Although these can be installed by a resident or occupant, we believe many project participants will appreciate the support of a ReSource graduate to ensure the system is connected via phone and successfully operates. Furthermore, BED will support ReSource in the creation of a job-shadowing electrician program, whereby students are able to join BED and contractor electricians when installing the Project's Emporia's Vue (the submetering device).

Similarly, BED also supports Vermont Works for Women (VWFW), including the Trailblazers program, a free trades training program preparing women and gender-expansive individuals ages 16+ for careers in construction and the renewable energy sector. BED has mentored several students over the seven-week-long pre-apprenticeship program and served as a local employer on the three-week paid onsite work program. (Serving as a local employer requires participating in the VWFW gender equity training). Should BED's GRIP proposal be accepted, BED commits to working with VWFW on expanding the Trailblazers Program curriculum to include heat pump deployment and the tools that enable flexible load management; the seven-week pre-apprenticeship program will integrate information on heats and load control. As in the case of ReSource, this can include training VWFW students on how to use and deploy the Sensibo devices. BED will also support VWFW in the creation of a job-shadowing electrician program, whereby students can join BED and contractor electricians when installing the Project's Emporia's Vue (the submetering device).

Violation Disclosure

The City of Burlington has no known violations within the past two years under the National Labor Relations Act, Fair Labor Standards Act, Occupational Safety and Health Act, Service Contract Act, Davis-Bacon Act or Title VII of the Civil Rights Act. Under the BED Safety Program, there have been no violations in the last two years of any of the Acts listed.

3. Diversity, Equity, Inclusion and Accessibility

The following list illustrates some of the DEIA actions that this project will incorporate. This includes how BED will partner with training organizations that serve workers facing system barriers to access quality jobs, and other key partners to help address DEIA.

Ensure that our deployment of the project is equitable and reflects the community's diversity

⁹ Resource Training Programs Overview (2023). <https://resourcevt.org/training-programs-overview/>

This project will involve the deployment of approximately 3,500 Sensibo Air and 1,500 Emporia Vue devices on both new existing heat pump systems. To ensure that Burlington's DAC can participate in this deployment, and reap the economic rewards of this work, BED commits to ensuring that over 40% of the total number of devices are deployed in Burlington's 2 DAC census tracts, 1,200 Sensibo Air and 600 Emporia Vue devices.

BED will succeed in ensuring the project is equitable and reflects the community's diversity by partnering closely with our subsidized housing providers including CHT, the Burlington Housing Authority, and Cathedral Square Corporation to install Sensibo and Emporia devices in their units. Given the low rate of homeownership among Burlington's most disadvantaged community members, partnering with housing providers will ensure equity.

Identify and partner with workforce training organizations

BED has a track record of identifying and partnering with various state and local training organizations, all of whom will play significant roles in building our internal capacity to ensure project success. This includes ReSource and VFWF. ReSource hosts multiple (paid) training programs designed to reskill workers. Within six months of program completion, approximately 75% of ReSource graduates are employed, and all trainees receive OSHA 10 certification. More than 85% of attendees are unemployed or under-employed when entering the program. Program completion also enables workers to enter the workforce with a higher skill level, often translating to higher wages.

VFWF's Trailblazers program is a free trades training program preparing women and gender-expansive individuals ages 16+ for careers in construction and the renewable energy sector. In addition to financial support, BED has mentored several students over the 7-week-long pre-apprenticeship program and served as an employer on the 3-week paid onsite work program. (Serving as a local employer requires participating in the VFWF gender equity training).

Offer anti-bias training and education to ensure staff can recognize bias and learn how to reduce discriminatory barriers

In 2020-2021, the City of Burlington launched an extensive 6-week anti-bias training for all staff. Offered through the Office of Racial Equity Inclusion and Belonging, this training has since been integrated into the Human Resource Department's On-Boarding process, ensuring that newly hired employees are given the information and skills they need to work successfully in Burlington's multi-cultural environment and to build a culture that respects diversity and equity.

Furthermore, BED recently hired a Project & Equity Analyst. This new staff member is not only responsible for engaging with historically disadvantaged community members in the City and to help ensure our programs, and utility services, are accessible to all customers, this person will support internal organizational development and capacity-building around equity, inclusion, and sustainability.

Provide funding for or partner with community organizations

In addition to its support for ReSource and VFWF, BED understands that a lack of reliable, safe and affordable transportation hinders job opportunities and employment. To ensure future hires are not debilitated by a lack of transportation options, BED will continue to offer support

to the Old Spokes Home, a non-profit bike shop located in, and serving one of Burlington's 2 DAC census tracts.

To transition Burlingtonians away from fossil fuels and to address transportation inequities that stymie employment and job growth, BED offers \$200 rebates to customers that purchase an electric bicycle. Furthermore, because upfront costs can sometimes be prohibitive, BED worked with Opportunities Credit Union to offer a 0% interest low-barrier loans for qualifying customers seeking a loan to purchase an e-bike for transportation. More recently, BED was awarded funding through the Urban Sustainability Directors Network to support a community bike repair shop, keeping more bikes on the road and empowering more LMI customers with the tools and resources they need to keep their own bikes operational.

BED understands that DOE funding will ultimately translate into the need for more qualified staff. Committed to attracting candidates from its most disadvantaged neighborhoods, but aware that transportation challenges may stymie prospective candidates, BED will continue to support OSH in its mission to address transportation inequity, through its \$200 e-bike rebate program, in partnering with Opportunities Credit Union on 0% interest loans and in spreading news and information the new community repair workshop.

BED also partners with CVOEO including collaboration on weatherization for LMI Burlingtonians, and more recently, with CVOEO's newly hired Energy Coach. This collaboration has included sharing resources and information on BED's energy efficiency program and materials on how CVOEO clients can reduce their utility bills. BED has also partnered with CVOEO's Ambassador's Program. Comprised of several New American communities trained and employed by CVOEO, the Ambassadors provide interpretation for one-on-one financial coaching appointments, business development counseling appointments, culturally responsive classes on credit, banking, and saving. Prior to launching its Customer Care Survey, BED worked with the Ambassador's Program to ensure the questions were culturally competent and that the survey was administered in ways that would ensure equitably and access. *Should BED obtain GRIP funding, it commits to working with CVOEO's Ambassadors on community outreach about the project.*

Local and/or economic hire efforts

We are committed to providing employment for qualified residents and to diversify our workforce so it better represents the people for whom we serve. As such, BED post notices of job openings to the employment board of the Vermont Professionals of Color Network and with the Vermont Works for Women, ReSource, AALV, and CVOEO.

SMART Milestones - End Use Metering and Load Control of Heat Pump Loads		
	Explanation of Goal	Actions related to goal
Specific	Placing equipment in the home to submeter and control heat pump's AC state. Enables flexible load management and a bill credit to reduce the cost to operate.	Partner with equipment manufacturer and installers; partner with housing developers; partner with private residents (renters and homeowners)
Measurable	Year 1: 300 total homes; 120 DAC Year 2: 500 total homes; 200 DAC Year 3: 700 total homes; 280 DAC	Community outreach Marketing and Education Community Partnerships

Action-Oriented / Achievable	The goal is within reason as we already have 2,000 heat pumps deployed in Burlington. Also have resources and local labor force to begin with.	Energy Services, Program & Equity Analyst, Policy & Planning
Realistic/Relevant	This is achievable as we have proven it will work through the current pilot program. This project connects with BED's NZE goal of decarbonization and supports BED's Strategic Plan for flexible rates.	Obstacles include community engagement, education and outreach, devices functionality, vendor exposure.
Time-bound	Everything can be completed within the three year project window.	See Gantt Chart in Technical Volume

SMART Milestones - Large Commercial Flexible Load		
	Explanation of Goal	Actions related to goal
Specific	Work with Dynamic Organics and controls contractor to enable commercial & industrial grid-interactive efficient buildings that can provide thermal storage.	Partner with equipment manufacturer and installers; partner with housing developers; partner with private residents (renters and homeowners)
Measurable	Year 1: 10 facilities Year 2: 15 facilities Year 3: 20 facilities	Community outreach Marketing and Education Community Partnerships
Action-Oriented / Achievable	The goal is feasible as Burlington has many commercial buildings with BMS with the ability to participate in this program.	Energy Services, Program & Equity Analyst, Policy & Planning
Realistic/Relevant	This is achievable as we are proving the capabilities with DO in the current pilot. This connects w/ NZE - decarbonization of thermal and BED's Strategic Plan - flexible rates Demonstrated ability via current pilot	Obstacles include community engagement, education and outreach, devices functionality, vendor exposure.
Time-bound	Everything can be completed within three years.	See Gantt Chart in Technical Volume

4. Justice40 Initiative

Disadvantaged Communities to which benefits will flow

In 1980, Burlington was granted federal status as a Refugee Resettlement Community. Thanks to this designation, Burlington prides itself as the State's multicultural city, with over 48 languages spoken in Burlington public schools, including Somali, Bhutanese, Nepalese, Swahili, and others. As such, over 16% of Burlington School students receive English Language assistance¹⁰ and 1/3 of Burlington's youth are people of color¹¹. Most of this diverse community – and the entities that serve them - live in one of Burlington's 2 DAC census tracts. This includes the Old North End Community Center, owned and operated by Champlain Housing Trust, and home to the Hunt Family Room and the Association of Africans Living in Vermont.

¹⁰ BSD Annual Reports and Data (2023). <https://www.bsdyt.org/district/superintendent/school-assessments-data/>

¹¹ The City of Burlington 2019 Equity Report (2019), 9.

https://www.burlingtonvt.gov/sites/default/files/tiles/City%20of%20Burlington%202019%20EQUITY%20REPORT_FINAL.pdf

Along with the benefits and attributes of being a multi-cultural city, are the challenges posed by Burlington's low homeownership rate, high rental rate (over 60% of Burlington's housing stock is rental) and high [rates of poverty](#) among Burlington families. For example, nearly one-third (26.4% in 2019) of Burlington residents live below the poverty level, 61.5% greater than the poverty level across the entire state of Vermont (10.2%). Considering residents not living in families, 31.4% of high school graduates and 44.2% of non-high school graduates live in poverty. The rental rate among low-income residents is over 90%. Reports from 2019 indicate that in Burlington, 60% of renters are cost-burdened, meaning that more than 30% of income is budgeted toward rent. This is 10% higher than State and national levels¹².

The work identified in this concept paper would include making available end-use technologies to enable better peak demand management, which would yield cost savings for all Burlington Electric customers, including those in these census tracts. Further, BED offers a higher customer incentive for low-income customers to purchase heat pumps and could commit to targeting a certain amount of funding available to support submetering and load control of heat pumps to customers in the identified census tracts.

Identification of applicable benefits that are quantifiable, measurable, and trackable

This project will result in many quantifiable, measurable and trackable benefits including:

A decrease in energy burden: The end-use rate benefits of this project, coupled with BED's energy assistance program (i.e. a discount of 12.5% off residential rates to income eligible customers and recently approved by the VT Public Utility Commission) would further reduce the energy burden of heating and cooling for our most vulnerable customers. This is especially important as summer temperatures rise in Burlington, disproportionately impacting renters who at this point use "off-the-shelf" and energy inefficient air conditioning units. Furthermore, the availability of end-use technologies to enable grid-interactive efficient buildings, would yield cost saving for all Burlingtonians and proportionately more for those customers paying the most percentage of their household incomes on energy bills.

Metrics: BED will evaluate electricity bills to determine energy burden reduced for low to moderate income customers participating in the program and will provide information on how to enroll in the Energy Assistance Program BED provides.

An increase in energy democracy: BED's will engage with the BIPOC, LMI and the refugee community to share news of the project and solicit community input, particularly as it relates to heat pump deployment in subsidized housing sites. Input will be gleaned through several existing channels, including our BIPOC Ambassadors (organized through the Champlain Office of Economic Opportunity) and members of the "Trusted Community Voices" team (managed by the City's Office of Community and Economic Development), the Association of Africans Living in Vermont and through the City's Neighborhood Planning Assemblies located in each of the City's 8 Wards (or districts).

¹² The City of Burlington 2019 Equity Report (2019), 16.

https://www.burlingtonvt.gov/sites/default/files/tiles/City%20of%20Burlington%202019%20EQUITY%20REPORT_FINAL.pdf

Metrics: 12 total community meetings, including 2 with CVOEO's BIPOC Ambassadors, 1 with CEDO's Trusted Community voices, 1 with the staff of the Association of Africans Living in Vermont, and 1 in each of Burlington's 8 Wards.

An increase in high quality job creation: Thanks to BED's existing rebate and financial incentive programs, the City is experiencing an uptick (trending at 500 units per year) in heat pump deployment. With this project, we expect this trend to increase and the need for skilled workers to grow. As such, BED will continue to support ReSource's job creation programs, including curriculum on heat pumps and the selected load control technology. Similarly, BED will continue to partner with and support VT Works for Women, including the Trailblazers Program, offering students training in heat pump technology and the role of load control mechanisms.

Metrics: 40 total students from VT Works for Women and ReSource will be introduced to heat pump technology and flexible load management strategies through an expansion of the existing curriculum. 20 total students will job shadow electricians deploying heat pumps including meeting with homeowners and tenants deploying the Emporia and Sensibo devices.

Increased access to clean energy: At present, most of Burlington's residential heat pump installments have been in owner occupied housing units. Given Burlington's high rental rate, too few Burlingtonians have agency over their energy choices and the use of heat pump technology. However, with the advent of load control mechanisms and the associated cost savings, we anticipate more subsidized housing providers installing heat pumps and decreasing the use of natural gas in their buildings, thereby increasing access to clean energy for all customers. Furthermore, more large commercial property owners engaging in flexible loads means an increase in cost savings for all Burlingtonians, spreading energy parity throughout the city, regardless of home ownership status.

Metrics: BED will deploy Emporia and Sensibo devices to 600 disadvantaged community households using heat pumps. BED will partner with three of Burlington's subsidized housing providers: Champlain Housing Trust, Cathedral Square Corporation and the Burlington Housing Authority.

Anticipated Negative and Cumulative Environmental Impacts on Disadvantaged Communities
There are no negative environmental impacts associated with this project. Instead, the cumulative benefits of this project include a further reduction in the City's greenhouse gas emissions and advanced progress towards Burlington's NZE by 2030 goals. This project will also stimulate the local economy, thereby impacting all Burlingtonians, including DAC community members. When Vermonters spend money on fossil fuels, only 25 cents for every dollar spent remains in the local economy. However, when Vermonters use electricity for those same services (i.e. heat pumps) then 75 cents for every dollar spent recirculates back into the local economy (CITE EAN) including into the pockets of our BIPOC-owned business and non-profit entities working to support our disadvantaged customers.

How and when Anticipated Benefits Are Expected to Flow to Disadvantaged Communities

The benefits of this project will flow both directly and indirectly to DAC during project development and upon completion. Having load control of systems to shed or build load will provide more resources to enable grid resiliency in the face of extreme weather and climate disasters at all levels of the electric system. As LMI, BIPOC and renters disproportionately experience the negative impacts of climate change, this flexible load control will directly impact the degree to which LMI, BIPOC and renters are resilient to these adverse consequences.

Furthermore, the ability to minimize the impact of heating load on the electrical system will reduce the economic burden required to serve these additional loads in an unconstrained manner, thereby helping to keep electric rates low for all BED customers. This is especially important for disadvantaged households who spend a greater percentage of their household income on energy. By benefitting the grid with demand-side flexibility that can be harnessed to reduce distribution, transmission and wholesale electricity market impacts, BED will be better able to control energy rates, thereby impacting our most disadvantaged constituents and those who spend a higher portion of their household budget on energy bills.

Reduced electrical costs bring down the relative price of electrical use compared to fossil fuel uses. This allows electrical costs to be at near price parity with that natural gas -- critical to advancing NZE. A move away from fossil fuels not only reduces greenhouse gases, but poor indoor air quality and high humidity – both associated with asthma. Department of Health data indicates that Burlington’s 2 DAC census tracts experience higher asthma rate and hence have proportionately more to gain from fossil fuel reduction.

How the benefits will be tracked:

600 Emporia Vue devices

1200 Sensibo Air devices

We are expecting this program to provide 1.5 MW of flexible load management from heat pumps and 2.25 MW from commercial buildings. The anticipated value from heat pumps will be a rate that is cost competitive with natural gas. For commercial customers, they will be able to participate in the program free of charge and will only see upside benefits from providing flexible load management.

Metrics

Benefit	Metric
A decrease in energy burden	Evaluating annual bill savings ¹³
An Increase in energy democracy:	Community Meetings
An increase in high quality job creation	Support VWFW and ReSource student trades program
Increased access to clean energy:	600 DAC households

¹³ Summer will be evaluated alone if no natural gas billing data is provided.