Overcoming Barriers to Small Commercial Energy Efficiency and Electrification

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ABSTRACT

Small and medium businesses, which make up 89% of businesses in Washington State, are a sector with huge untapped potential for energy efficiency. Small businesses are staffed differently, budget differently, and make decisions differently than the larger businesses that are targeted by the majority of existing regulations and programs. They possess unique challenges and opportunities, and understanding these is the key to unlocking meaningful greenhouse gas savings.

In an international survey of 200 small and medium sized businesses that are committed to climate action, the UN-backed SME Climate Hub identified the top barriers to implementation: lack of funding, lack of know-how, and lack of bandwidth.

The Community Energy Challenge is a non-profit program in Western Washington that has been helping small business owners reduce energy use for over a decade and provides one model for overcoming these obstacles. By providing technical assistance and financial incentives, the Community Energy Challenge has fostered high uptake of efficiency measures in both urban and rural small businesses that it serves. This paper will examine barriers specific to small commercial energy efficiency and electrification, and detail specific strategies for breaking them down.

Empowering small businesses, both urban and rural, to save energy is a key piece of a holistic and equitable energy transition. Work in this sector can inspire ripple effects that speed the transition through the entire community and economy.

Contextualizing Small Businesses

Small businesses, defined as having 500 or fewer employees, make up 99.9% of commercial enterprises in the United States (Forbes Advisor 2024). Out of these, 89% employ fewer than 20 people, making these smaller operations a significant demographic to account for in any strategy to reduce energy use in commercial buildings (SBEC 2019). Although the largest commercial buildings use the majority of energy in that sector, 44% of commercial energy use takes place in buildings smaller than 50,000 square feet (NREL 2024). This highlights the significant opportunity that exists to reduce energy consumption by engaging small businesses in energy efficiency and decarbonization efforts.

Despite their prevalence, small commercial buildings remain a relatively untapped source of energy saving potential. Staffing, budgeting, and decision-making processes in small businesses often vary dramatically from those employed by their larger counterparts, rendering them a distinct sector with their own challenges and opportunities. The Washington Clean Buildings Act of 2019 only provides regulations and financial incentives for buildings over

20,000 square feet. Utility Strategic Energy Management (SEM) programs are only available to the businesses with the highest energy usage. Commercial tax credits require whole building modeling and verification that most business owners aren't knowledgeable enough to complete without hiring a consultant. These programs either exclude or don't take into account the realities of small businesses in favor of the expediency that comes from working with a singular large entity. Focusing on the largest buildings is a sound strategy as we race to decarbonize our built environment, but we can't afford to leave the 44% of energy used by smaller buildings out of a successful energy transition, and therefore must grapple with the complexity of engaging this vast and diverse sector.

This paper will explore common barriers to implementing energy efficiency at small businesses and provide a case study of one model that has found success to achieve significant savings.

The Community Energy Challenge

Creating the Community Energy Challenge

Sustainable Connections, a non-profit in Bellingham, Washington, was founded in 2002 to serve as a business membership network to help locally owned businesses adopt environmentally sustainable practices. Over two decades later, Sustainable Connections' work has evolved to encompass a more holistic vision of community transformation. "We envision a region of informed and engaged communities where all people have access to fresh local food, live in affordable and healthy housing, make a living doing what they love, and have the lightest possible impact on the environment. We make this vision a reality by leading the transition to a regenerative local economy. Regenerative economies move away from extractive business models and work in harmony with nature and society to foster ecological restoration, community resilience, and social equity" (SC 2024).

The Community Energy Challenge (CEC) is a long-running program initiated by Sustainable Connections that provides a concrete way for local businesses to reduce their climate impact while making their buildings more comfortable and affordable to operate. At its founding as a pilot program funded by the American Recovery and Reinvestment Act (ARRA) in 2009, via a Community Energy Efficiency Program (CEEP) grant from the Department of Commerce, the CEC set out to develop the market for energy efficiency in Bellingham and Whatcom County. The program is a partnership and collaboration between Sustainable Connections, which focuses on commercial energy efficiency, and the local Community Action Agency, Opportunity Council, which focuses on home weatherization and efficiency. The newly-founded pilot offered comprehensive technical assistance to inspire and enable residents to reduce energy use in their buildings. The initial goal of the program was to serve 150 businesses and 900 homes over three years. This paper will only deal with the commercial division of the CEC, which has created innovative strategies to overcome barriers to adopting energy efficiency at small and locally-owned businesses.

The founders identified that “opportunities to obtain professional assistance with energy efficiency improvements are practically non-existent” (Reisman, Ramel and Selch 2010). Identified barriers included small businesses being less likely to own their property, requiring shorter paybacks to justify building improvements. Small businesses are also less likely to have access to facilities managers or expensive consulting relationships, such as with an Energy Service Company (ESCO).

Unlike existing energy assessment services available through local utilities, the CEC provided a fuel-neutral energy audit identifying and prioritizing measures based on potential to reduce operating costs and energy use. The program emphasized low-and-no-cost savings opportunities, such as changing occupant behavior and correcting thermostat settings, as well as providing technical support for businesses to make capital improvements.

The Community Energy Challenge in 2024

A decade and a half later, the CEC remains true to its initial mission while integrating myriad lessons learned over the years. Far surpassing the original goal of performing energy audits at 150 businesses and 900 homes, over 880 businesses and 3,030 homes have been served as of 2024. The CEC has expanded into a four-county territory in northwest Washington, including Whatcom, San Juan, Skagit, and Island Counties, as shown in Figure 1.

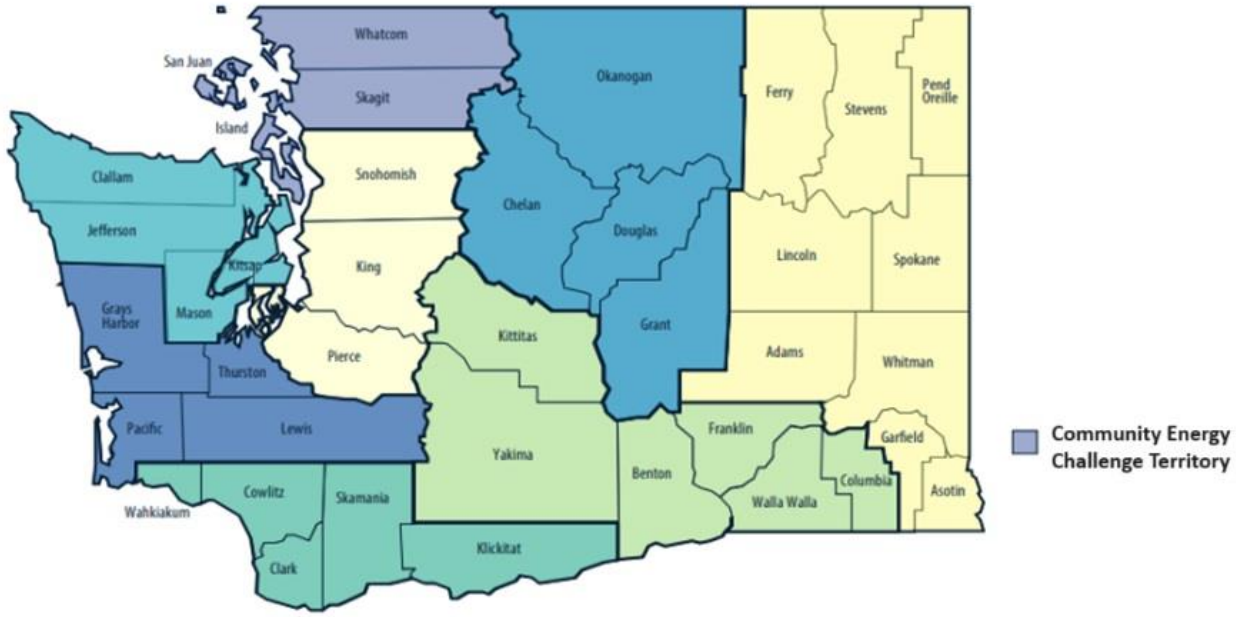

Figure 1. Counties served by the Community Energy Challenge

How It Works

The Community Energy Challenge is a "One Stop Shop" providing technical and financial assistance to homes and businesses making energy efficiency upgrades to their buildings. Due to limited grant funding for marketing, outreach for the program has always been grassroots and community focused. Outreach is centered on the philosophy of Community Based Social Marketing, a framework that uses community influence and positive peer pressure to inspire the desired action (McKenzie-Mohr 2011). The most common ways that businesses hear about the Community Energy Challenge are via word of mouth from past participants, from contractors, or via Sustainable Connections' established communications channels. Collaborating with trusted messengers, such as other non-profit and community organizations, is a key strategy for diffusing information about the program into harder to reach sectors, such rural small businesses. This community-based outreach is supported by more traditional channels such as newsletters, social media, web pages, and tabling at events.

Participants in the Community Energy Challenge begin by signing up for a low-cost energy audit. Early in the program's history, grant funding was used to offer commercial energy audits at no upfront cost. It quickly became apparent that staff time was being spent on businesses that simply wanted a "check-up" and weren't immediately motivated to make energy efficiency improvements. Subsequently, a highly subsidized energy audit fee was introduced, which led to much higher uptake of energy efficiency improvements as participants had some "skin in the game". The audit fees are based on square footage and set much lower than the market rate for commercial energy audits in recognition that small businesses generally aren't accessing energy audits performed by ESCOs and consulting firms due to the costs and complexity not matching the needs of their business.

Once a business has signed up for the Community Energy Challenge, they go through an intake process to access past energy usage for benchmarking. Preliminary information about their building is gathered and they fill out a form to answer questions about their priorities for the process. A commercial energy auditor assesses the building, identifying all cost-effective opportunities to reduce energy use, with the lens of prioritizing greenhouse gas reductions.

Sustainable Connections always employs at least one energy auditor with the Certified Energy Manager (CEM) or Certified Energy Auditor (CEA) certification via the Association of Energy Engineers, or a Professional Engineer (PE) certification. This ensures that participants can access grant programs that require having an energy audit performed by someone with those credentials. Commercial energy audits are generally performed to ASHRAE level 1 or level 2 standards but are tailored to the needs of the business being served. Some small business owners will request a simplified process with less technical communication, while others will require an ASHRAE level 2 audit to qualify for specific grants.

After the audit, the participant is then presented with a report outlining the recommendations for their building and they select which measures they want to complete. The CEC can serve as a neutral third-party advocate for the participant offering advice, analysis, and support as they navigate having the work done.

The CEC provides exclusive financial incentives funded by the grants that support the program directly to participants. The Energy Advisor also assists participants in accessing utility rebates and other applicable grant or incentive programs to reduce upfront costs as much as possible.

Although there is much variability between different commercial buildings and the way different industries use energy, businesses that work with the CEC reduce their annual energy use of all fuel types by an average of 25 percent when they complete more than one recommended capital improvement measure. Since 2019 (record keeping practices changed in 2019 so program outcomes are calculated from 2019 to 2024 for consistency), participating businesses have reduced emissions by an average of 470,495 lbs of greenhouse gas annually, the same impact as taking 26.9 average homes completely off the grid each year (https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator). These savings persist for the life of the measure, at least 15 years in most cases.

Participants are also educated on the non-energy benefits of adopting efficiency measures, such as improvements in health, safety and building durability; increased air quality, increased occupant comfort, and better employee retention (MEEA 2024). Efficient buildings are safer, healthier, more comfortable, and less expensive to operate.

The CEC has stayed true to its mission to serve as a One Stop Shop for energy efficiency and has driven significant uptake of efficient building upgrades in its service territory. Strategic improvements over the life of the program have tailored the offerings to better serve the needs of homes and businesses while continuing to center the reduction of energy use and greenhouse gas emissions in program design.

An Overview of Barriers to Small Commercial Energy Efficiency

Although the CEC is far from the only energy efficiency offering for small businesses and nonprofits, it is one of the most holistic and robust programs in Washington State. The CEC seeks to provide small businesses with the level of support and guidance that is afforded to larger businesses employing a facilities manager. In fact, proposed legislation to create a statewide program to aggregate energy efficiency resources for homes and businesses, HB 1391, is based on the program design of the Community Energy Challenge (House Democrats 2024). Small businesses face unique challenges and barriers to implementing energy efficiency, and the CEC is one model that has been successful in addressing these. The following sections will go deeper into describing barriers to small commercial energy efficiency and electrification and how the CEC has sought to break them down.

SME Climate Hub Survey

The SME Climate Hub, an initiative of the We Mean Business Coalition, the Exponential Roadmap Initiative, and the United Nations Race to Zero campaign, “provides tools and resources to enable small and medium-sized enterprises (SMEs) to make a climate commitment, take action and measure their progress towards emissions reductions in line with the latest

science" (SME 2023). In 2023, the SME Climate Hub conducted the SME Climate Hub Survey, which received responses from 344 businesses in 40 countries and across 25 industries. The goal was to "better understand the motivators and barriers of small business climate action" and their results closely aligned with lessons learned on the ground operating the Community Energy Challenge for a decade and a half. The top three barriers to climate action and reducing energy use that they identified are: not having the right skills and knowledge to take action (58%), lack of funds (55%), and lack of time (44%) (SME 2023).

Lack of Time, Skills, and Knowledge

Two of the largest barriers identified, lack of time and lack of knowledge, are constraints on staff capacity and expertise. Only 3% of facilities managers are employed at businesses with fewer than 50 employees, leaving a significant gap in dedicated staff for energy management tasks at smaller businesses. Business owners already wear multiple hats in running their businesses, making it challenging to carve out time for anything beyond day-to-day operations and urgent challenges that arise. Larger businesses with more capital may engage with ESCOs or other consulting firms to outsource project management, but the Department of Energy suggests that facilities occupying less than 50,000 square feet or with an annual energy expenditure below $60,000 are unlikely to derive significant benefits from performance contracting, further exacerbating the resource constraints faced by small businesses in pursuing energy efficiency improvements (DOE 2016).

The CEC Approach

Addressing the barriers of lack of time, skills, and knowledge is inherent in the design of Community Energy Challenge as a One Stop Shop. Energy Advisors serve in a similar role to facilities managers, guiding businesses through the entire cycle of identifying opportunities and priorities through funding the project and implementation.

The first step is a comprehensive energy audit, examining every system in the building including envelope, electrical, appliances, lighting, HVAC, solar potential, and any industry-specific processes. An essential part of the audit is engaging with the business owner or knowledgeable employee to better understand the business's objectives, priorities and needs around energy consumption. During this conversation, the Energy Advisor also seeks to understand how occupant behavior impacts energy use in the building. The findings from the building assessment, the expressed priorities and needs of the business representative, and how the building is currently being used are all factored into making recommendations. Even when lack of technical knowledge and expertise are barriers to efficiency projects, it is important to remember that the owner and employees are the real experts on the business and what it is like to spend time in the building.

Once all opportunities and priorities are identified, the Energy Advisor prepares a report of customized recommendations. This is a valuable resource for addressing the lack of knowledge barrier, as the report provides a forum to educate on the different measures and

contextualize the recommendations. The Energy Audit Report starts with a summary ordering all recommendations by simple payback, calculated after applying available incentives and rebates. This usually prioritizes no-and-low-cost quick fixes (such as adjusting thermostat settings, installing free LED lighting, or installing efficient hot water fixtures) first so the participant can see that there are easy ways to start saving energy and money right away. These are followed by "capital improvements" (such as HVAC replacements, lighting fixture retrofits, or solar PV installation) that require a bigger upfront investment and usually involve hiring a contractor to implement. Starting the conversation by presenting the measures by simple payback sometimes yields surprising shifts in priorities, making participants more confident that they can afford to choose a higher efficiency option or complete more projects that they initially thought. The goal is to reduce overwhelm that can get in the way of action. Figure 2 shows an example of the measure overview from the begging of an energy audit report, ordering the recommendations by estimated payback and providing basic information about anticipated costs, savings, and rebates.

NO.	MEASURE	POST-REBATE/TAX BENEFIT COST	ESTIMATED ANNUAL SAVINGS	REBATE OR GRANT	PAYBACK PERIOD
1	FREE DIRECT INSTALL	FREE!	$34.01	YES	0 Years
2	INSTALL NEW THERMOSTATS FOR OFFICE AREA THAT HAVE SETBACKS	$300	$252	TBD	1.2 Years
3	UPGRADE WATER HEATER	$1,915	$385	YES	5 Years
4	INSTALL ULTRA-HIGH-EFFICIENCY TOILETS	$700	$110	YES	6.36 Years
5	INSTALL DUCTLESS HEAT PUMPS	$28,456	$3,238	YES	8.8 Years
6	INSTALL SOLAR ELECTRIC	$86,400	$9,000	YES	9.6 Years
7	INSTALL A NEW EFFICIENT LORING S70 ROASTER	$249,288	$15,758	YES	15.8 Years

Figure 2. Sample measure overview from energy audit at a coffee roaster

Each individual recommendation is then expounded upon to empower the participant to take next steps. This includes a paragraph summary explaining why the Energy Advisor is making this recommendation based on the audit results and business priorities, along with more detailed explanations of estimated energy and cost savings, estimated project cost, available incentives, and the next action to take to move forward with implementation. The goal is to break

down the process into smaller pieces of information to make it easier for the business owner to feel confident getting started. The Energy Advisor is available to answer questions, follow-up on additional needs, and help move forward into the project implementation stage.

In the course of breaking down the lack of knowledge barrier, the Energy Advisor often comes across equipment or processes that they are unfamiliar with. This could be niche equipment associated with a specific industry or just a novel problem they haven't encountered before, so taking on the workload of researching, calling the manufacturer, and gaining enough knowledge to make an informed recommendation to the participant is a big part of how the CEC bridges the knowledge and time gap for participants.

Once the participant decides to move forward with implementing a capital improvement, the Energy Advisor can provide project management support as a neutral third-party. This includes communicating the business's needs to contractors and helping the participant understand and compare different bids for the project. In cases where the Community Energy Challenge provides a financial incentive toward a project (more on that in the next section), or if the participant wants extra support learning how to operate the new equipment, the Energy Advisor will also provide third-party quality assurance on the finished project.

The CEC Energy Advisor breaks down the barriers of lack of knowledge/skills/time by performing a comprehensive energy audit, providing a customized report, taking on the work of researching measures, and conducting project management and quality assurance. Although most small businesses don't employ facilities managers, the CEC Energy Advisor can serve as an expert on the business's team. Once a business participates in the CEC, they may reengage the program at any time for additional assistance. Since January of 2019, 11.2% of energy audits were second assessments for businesses that had participated over 5 years prior and were interested in making further building improvements. By making Community Energy Challenge participation "for life", the Energy Advisor can confer many of the benefits of employing a facilities manager to small businesses and 100% of respondents to post-audit surveys between 2021 and 2023 said they were "Extremely Satisfied" with the assistance they received.

Lack of Funds

"Data shows that 38% of businesses fail due to exhausting their cash reserves or the inability to secure additional capital" (Forbes Advisor 2024). Financial management is unquestionably a huge concern for small businesses and upfront costs of energy efficiency improvements can be a significant barrier to implementation. Although reducing energy use and greenhouse gas emissions are important, energy efficient appliances and equipment tend to cost more than their standard efficiency counterparts. For example, during a 2022 campaign to educate residents of Bellingham, WA, about heat pump water heaters, the CEC gathered pricing information from several local contractors. Two HVAC companies that are very familiar with these upgrades priced replacing a gas storage tank water heater with a new gas storage tank water heater from between $2,000-$3,000 (including parts and labor) while replacing a gas water

heater with a heat pump water heater would cost $5,000-$10,000 (including parts, labor, and an electrical panel upgrade). Weighing the environmental benefits and operational cost savings against the first cost of high efficiency equipment is a tough proposition for many businesses. To this end, the Community Energy Challenge helps participants access financial resources to lower project costs. The CEC provides incentives and identifies all available rebates and grants for energy efficiency retrofits.

Rebates, Incentives, and Grants

Community Energy Challenge incentives. The CEC offers exclusive financial incentives to participants out of program funding provided by the Department of Commerce CEEP grant. These incentives fill in gaps from other incentive sources to help participants say yes to making energy efficiency upgrades. The commercial division of the CEC offers up to $5,000 per participating business, based on modeled energy savings. The Energy Advisor will use past energy bills, information gathered during the energy audit, and specifications of proposed improvements to estimate the energy savings from the project and assign an incentive. The participant signs an Incentive Agreement to lock in the incentive so they can count on the funding for their project.

Projects which only save electricity are awarded $0.10 for every kWh saved. Given the strategic importance of moving away from fossil fuels to reduce climate impacts (more on this in the next section) and the availability of robust incentives for natural gas projects from the local utility, the decision was made in 2022 to conserve program funds by ceasing to incentivize fossil-fuel-only projects. All the incentive rates for units of fuel saved were increased by 20% to the amounts shown in Table 1, and there is a 5% additional incentive for non-profits. The minimum eligible incentive is $250 and incentives are capped at whichever is less: $5,000 or up to 60% of the project cost when combined with other rebates and incentives.

Table 1. Incentive rate for switching from fossil fuels to electricity

Fuel	Units	Incentive per unit saved
Natural Gas	Therms	$1.68
Heating Oil	Gallons	$3.24
Propane	Gallons	$1.81

Utility rebates. Three utilities provide most of the energy in Community Energy Challenge territory. Puget Sound Energy provides electric service to Whatcom, Skagit, and Island Counties. Cascade Natural Gas provides natural gas service to Whatcom (excluding some rural areas), Skagit, and the northern part of Island County. Orcas Power and Light Cooperative (OPALCO) provides electric service to San Juan County. All these utilities offer rebate programs for various energy efficiency measures, ranging from simple point-of-sale rebates to custom calculated grants for large and complex HVAC projects. There are rebates for all the most common energy

efficiency measures, but one blind spot of utility rebate programs is the lack of incentives for any projects involving switching from one fuel source to another. Propane and fuel oil providers do not provide any efficiency incentive programs.

Government grant programs. To ensure participants have access to all relevant funding sources, the Energy Advisor will search for government grant programs for the organization type, location, or industry of the participant. The most common sources of grants for small businesses are the Department of Commerce and the USDA, though most of these opportunities involve competitive application processes and favor much larger projects than the average small business would undertake. The USDA Rural Energy for America Program has been the most beneficial source of funding for energy efficiency and renewable energy projects at rural businesses and agricultural producers (USDA 2024). Historically, if awarded, these grants covered 25% of project costs, but in 2023 the Biden Administration utilized the Inflation Reduction Act to increase the award amount to 50%. The longevity of the increase is uncertain past the end of 2024, but even if it reverts to 25% these grants have been a significant driver of energy efficiency and renewable energy projects in rural areas.

C-PACER (Commercial Property Assessed Clean Energy & Resiliency) financing. In 2020, the Washington State legislature authorized the creation of property assessed financing for energy efficiency, renewable energy, and resiliency (such as seismic retrofits, fire suppression, flood mitigation) projects at commercial buildings. In 2021, Whatcom County adopted an ordinance codifying C-PACER financing and making it an option for businesses located in the county. C-PACER financing is based on an assessment tied to the building, not the business, making it an option that reduces some of the barriers to commercial energy efficiency projects, such as short commercial lease terms. Despite the tailored financing option, uptake has been very low by local businesses. One barrier is the lack of local lenders who are familiar with the program. For the first few years of the program the CEC provided participants with access to low-interest loans via a revolving loan fund, which was similarly underutilized. It is outside the scope of this paper to speculate about why tailored energy efficiency financing is not more attractive to businesses but would be a valuable line of inquiry (Whatcom County 2024).

Outcomes

The Energy Advisor provides participating businesses with a full menu of funding options so they can leverage the maximum resources for energy efficiency projects. Without a central resource to aggregate all the opportunities, businesses receive varying amounts of information and assistance applying for rebates depending on the contractor they work with[1] and risk missing out on funding. Capital projects completed through the Community Energy

[1] The Community Energy Challenge provides education to local contractors to ensure more consistency as to the assistance that local homes and businesses receive accessing financial incentives.

Challenge since 2019 receive incentives covering an average of 24.6% (mean) or 21.6% (median) of project costs when all available funding sources are utilized.

Barriers to Electrification

So far, this paper has used the language of energy efficiency to refer to both the goals of conservation and decarbonization. Although efficiency is one important piece of the puzzle, the challenge of decarbonizing commercial building stock demands additional considerations. In 2019, Washington State passed the Clean Energy Transformation Act (CETA), which mandated that all electric utilities of a certain size provide a carbon-free electric grid by 2045 (DOC 2024). There are intermediate goals set along the way, such as eliminating coal in electricity generation by 2025, and reaching "carbon neutral" by 2035. In light of this legally mandated decarbonization of the electric grid, electric equipment such as lighting, HVAC, and appliances which are installed today will be nearing the end of their rated lives as we are passing the "carbon neutral" benchmark.

In the context of CETA, building energy improvements made today must be oriented towards electrification, not just efficiency. A study by the Electricity and Markets Policy Group concluded that "For both the buildings and industry sectors, the ultimate barriers to electrification are economic, not technical. Fuel prices and differences in the capital costs of equipment are the chief determinants of the relative economics of electric compared to non-electric technologies" (Deason et al. 2018). This reflects the experience of the Community Energy Challenge, that the trickiest barriers to electrification are financial, though the "lack of knowledge" barrier can come into play as well, especially around factoring in electrical panel and service upgrades to energy efficiency projects.

Financial barrier – first cost of equipment. As discussed in the lack of funds section, the upfront costs of switching from standard efficiency natural gas equipment to high efficiency electric equipment can be significantly higher. The Community Energy Challenge addresses this by providing financial incentives and helping participants access all available rebates and grants, as well as financing opportunities when desired.

Financial barrier – fuel-switching incentives. There are currently no rebates available from utilities in Community Energy Challenge territory that support changing from natural gas equipment to high efficiency electric equipment (such as heat pump water heaters or ductless heat pumps). Businesses in urban areas and non-profits, either rural or urban, aren't eligible for USDA incentives, which leaves very few resources to support electrification. The Community Energy Challenge bridges this gap by providing increased incentives for projects that reduce fossil fuel use and switch to electric power. There is hope that upcoming funding opportunities from the Washington Climate Commitment Act will provide local governments with the opportunity to create electrification rebate programs, but this will be dependent on local governments having the capacity to apply for and administer the grants and will not be a homogenous resource throughout the four counties served by Community Energy Challenge.

Financial barrier – utility costs. In Whatcom, Skagit, San Juan, and Island Counties the average cost per kWh of electricity is $0.10 and the average cost per therm of natural gas is $1.24. As you can see in Table 2, a ductless heat pump is still the least expensive option to provide the same amount of heat, but at current fuel prices the cost savings are marginal over natural gas, even while the greenhouse gas and energy savings are substantial. This is the trickiest barrier for the CEC to address because current offerings are focused on reducing upfront costs. Small changes in the size of equipment being installed, how it is used, or fluctuations in fuel costs make it hard to confidently state that switching to high efficiency electric equipment will consistently reduce operating costs, even though these projects need to be a high priority for decarbonization.

Table 2. Cost to provide 12,000 Btus of heating by heat source in Bellingham, WA

Electric baseboard heater (100% efficient)	$0.351
Standard natural gas furnace (80% efficient)	$0.186
High efficiency natural gas furnace (95% efficient)	$0.157
Ductless heat pump (300% efficient)	$0.117

Knowledge barrier – electrification readiness. When recommending fuel-switching projects, the Energy Advisor assesses "electrification readiness" and provides information on not only the efficiency retrofit, but associated upgrades to electric service as well. This helps demystify the process and allows business owners to plan for all facets of the project.

Conclusion

While the methods employed by the CEC aren't radical, the approach of offering comprehensive energy management services to small businesses is breaking down barriers and transforming the market for energy efficiency in CEC territory. This holistic program addresses the barriers of lack of knowledge, lack of funds, and barriers to electrification by empowering small business owners with tailored information, financial incentives, and maintaining a long-term energy management relationship. Small businesses make up the majority of businesses in Washington, while their buildings use significant amounts of energy. However, this sector remains largely untapped as a target for energy savings due to the difficulties of working with so many small entities with diverse needs. The long-running Community Energy Challenge program shows that these barriers can be overcome by understanding the needs of small businesses and meeting them where they are at with tailored information and financial resources. Empowering small businesses to save energy is a key piece of a holistic and equitable energy transition.

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