Funding the Minneapolis Clean Energy Partnership

Recommendations from the Energy Vision Advisory Committee Funding Work Group

Prepared for the EVAC meeting on July 11, 2017

Summary

The Energy Vision Advisory Committee (EVAC) Funding Work Group was created at the fourth quarter 2016 EVAC meeting with a charge of identifying a budget for accomplishing the Clean Energy Partnership's Work Plan, possible revenue sources, and proposed allocations for identified revenue. The Work Group has 6 EVAC members and was joined at meetings and assisted by staff of the City of Minneapolis, CenterPoint Energy, and Xcel Energy. This report represents the recommendations of the Funding Work Group to EVAC and the Clean Energy Partnership.

The Work Group identified a need for significant additional funding to meet the ambitious goals set out by the Partnership related to achieving widespread and equitably-distributed energy efficiency among the residents and businesses of Minneapolis. Achieving these goals will help more residents afford to own or rent their homes, help more businesses stay in business, and create significant environmental and economic benefits for the city. However, without additional investment, it is difficult to see how the Clean Energy Partnership will be able to achieve its goals.

After reviewing several options for funding sources, the EVAC Funding Work Group recommends that the City increase the rates set in its utility franchise fee agreements with CenterPoint Energy and Xcel Energy to generate enough revenue to sustain the scale of action we believe is needed in the coming decades. We recommend an increase of 0.5% in the franchise fee rates of each customer class (residential, commercial, and industrial).

On an average year, we estimate that this increase would generate $2.9 million in new revenue that should be dedicated towards energy efficiency activities in the residential, commercial, and industrial sectors. These funds would help leverage utility CIP programs, which already bring more than $22 million annually into Minneapolis and could be utilized at a much greater rate with expanded program participation. Our proposed new investment will also help the Partnership reach its goal of reducing energy use by 1.5% each year, which would result in approximately $8.5 million in new savings each year that will benefit residents and businesses throughout the city.

We recommend that the funding be used for the following purposes:

Residential (single-family and multi-family)

- Expand outreach for single-family and multi-family buildings, building on lessons learned from the Partnership's Community Engagement Pilot
- Subsidize Home Energy Squad visits
- Fully fund the Multifamily Building Efficiency Program
- Create tools to reduce financing barriers

Commercial (small, large, and industrial)

- Fully fund the Green Business Cost Share program
- Create a city-wide small business engagement program
- Subsidize building efficiency studies
- Increase technical assistance and resources available for large properties
- Create tools to reduce financing barriers

We ask that Minneapolis Clean Energy Partnership spend the remainder of 2017 advancing the recommendations contained in this report in order to have a funding structure and programmatic budget in place for 2018 to begin the urgent, necessary, and beneficial work of ensuring that energy efficiency and clean energy are accessible to all residents and businesses in Minneapolis.

Section 1. The Need for Greater Funding

The Minneapolis Clean Energy Partnership (CEP) was formed to help the city reach many goals in its Climate Action Plan and Energy Vision 2014.[1] Those goals, summarized below, range from an 80% greenhouse gas emissions reduction by 2050 to a 17% reduction in energy use by 2025 to elimination of energy burden disparities by race or socioeconomic status.

In reviewing the goals, there are several opportunities for the city to invest now for substantial long-term economic, environmental, and equity rewards:

1. The city has enormous untapped energy savings potential that could bring in over $250 million annually into the local economy by 2050.
2. The city's investment can complement over $20 million per year in utility conservation and renewable energy programs.
3. The city's investment can remedy missing racial and economic equity goals in utility conservation programs, helping all contributing customers access energy savings programs while generating millions of dollars in energy savings and economic activity.
4. The city and utilities can illustrate how a public-private partnership can succeed in addressing the climate threat despite President Trump's withdrawal from the Paris Accords.

1.1 The City's Goals

The City of Minneapolis's Energy Vision 2014 says that:

> *In 2040, Minneapolis's energy system will provide reliable, affordable, local and clean energy services for Minneapolis homes, businesses, and institutions: sustaining the city's economy and environment and contributing to a more socially just community.*

The goals of the Energy Vision and Climate Action Plan include:

Clean Energy

- Reduce greenhouse gas emissions by 30% by 2025 and 80% by 2050.
- Reach an electricity supply that is almost carbon emission free by 2040.

Local Energy

- Increasingly use local renewable energy resources (including solar, biomass, hydro and wind)... to supply 10% of electricity used in the city by 2025.
- Integrate efficient community scale heating and cooling systems into many high density developments across the city. Use combined heat and power facilities to provide efficient energy in district energy and industrial applications in many areas of the city.

Equitable Energy

- By 2040, race, ethnicity, income, and age will no longer be indicators for who bears pollution impacts or receives economic or environmental benefits.

[1] *Minneapolis Climate Action Plan: http://bit.ly/2ttPCXN*
Minneapolis Energy Vision 2014: http://bit.ly/2tu1A3o

- Reach 75% of single- and multifamily households with whole-house energy efficiency retrofit services by 2025 (up from 5% in 2012).
- Energy use and efficiency data is seamlessly available… Businesses and residents consider energy information in economic decisions from making additional energy efficiency investments, making purchasing decisions, or renting or buying property.

Affordable Energy

- The energy infrastructure serving the city affordably meets the basic needs of residents, such as adequate heating, cooling and lighting.
- Reduce energy use by 17% by 2025.

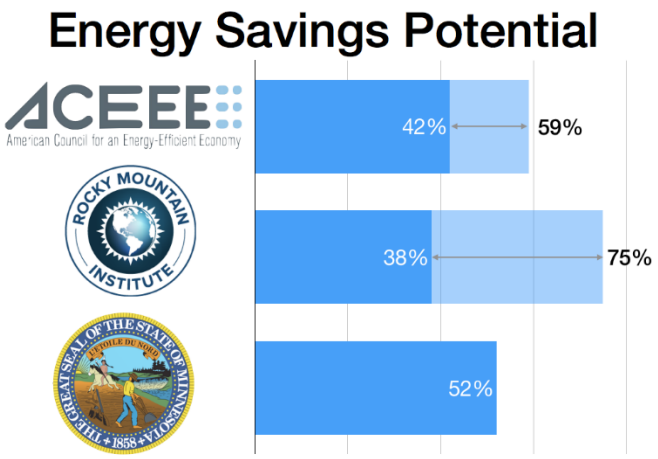
Reliable Energy

- Smart infrastructure ensures high levels of reliability, promotes energy efficiency, and enables high levels of local interaction and coordination while protecting customer privacy. High power quality helps make Minneapolis a competitive location for power-sensitive industries.

1.2 Achieving Our Potential for Savings

Minneapolis residents and businesses spend $570 million per year on electricity and gas.[2] How much of this $570 million can we save? Three assessments provide a consistent range of potential.

The American Council for an Energy Efficient Economy (ACEEE), the nation's premier research organization on energy efficiency potential, published The Long-Term Energy Efficiency Potential: What the Evidence Suggests with their assessment of energy potential by 2050.[3] They found that by implementing cost-effective technology and design practices it's possible to reduce energy use nationwide 42 to 59% by 2050. Applying this range to Minneapolis implies that - with well-timed investments - local residents and businesses could save $239 million to $336 million per year on energy costs.[4]

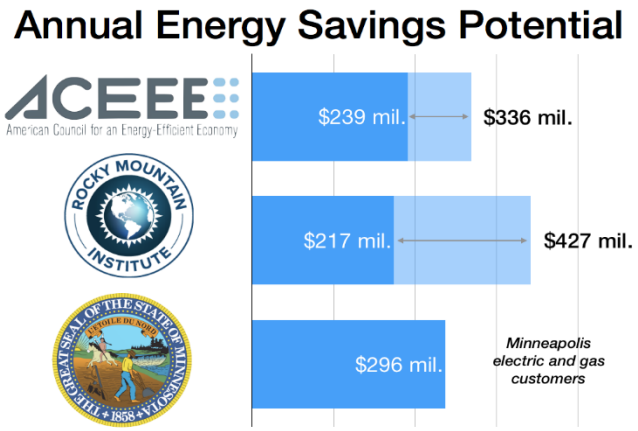


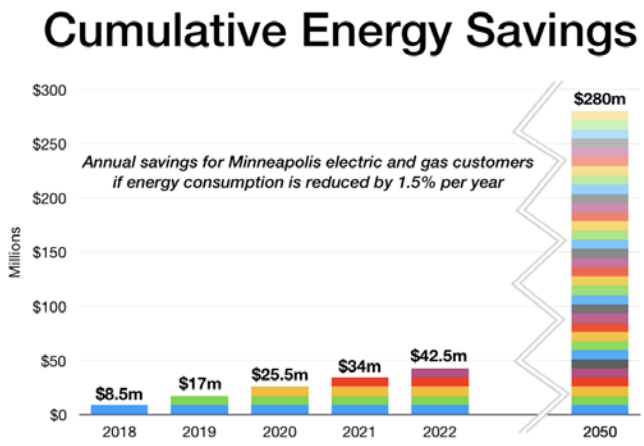
Reinventing Fire, an initiative of the Rocky Mountain Institute, identifies a similar range of energy efficiency potential using current, cost-effective technology: from 38% at low levels of redesign to 75%.[5] The latter requires more investment in better technology, tools that prompt energy-smart behavior, and redesign of buildings and other infrastructure systems for more efficient use. Using

[2] *The four year average (2013-2016) for Xcel Energy was $405 million and the five year average (2012-2016) for CenterPoint Energy was $164 million.*
[3] *http://aceee.org/research-report/e121*
[4] *Assuming no increase in energy prices. If they rise, savings would commensurately.*
[5] *https://rmi.org/insights/reinventing-fire/reinventing-fire-buildings/*

this range, Minneapolis residents and businesses could save $217 million to $427 million per year in current dollars. While achieving this transition requires trillions in investment nationally, the savings created are at least $5 trillion greater than the costs, according to Rocky Mountain Institute.

The State of Minnesota has recently commissioned a study on energy efficiency potential that may provide updated information on savings opportunities specific to Minnesota and Minneapolis.[6] A similar 1988 study that analyzed end uses identified a cost-effective savings potential in Minnesota of 52% using available 1988 technology.[7] While some of the efficiency opportunities identified in the 1988 study have obviously been tapped between now and then, many new energy efficiency technologies have since become available that would not have been included in that study. A 52% reduction in energy use for Minneapolis residents and businesses would be equal to $296 million per year in energy savings.





ACEEE has set a target of 50% reduction in energy use by 2050 (less than the midpoint of the three assessments), or $285 million per year in energy savings. Implementing this depth of energy efficiency will take many years. Dividing this potential into annual targets would require a 1.5% permanent reduction in actual energy use each year for the next 33 years.[8] Each year's energy reductions would add approximately $8.5 million to the local economy in reduced energy costs, and the effects (if permanent) would have cumulative impacts. Thus, savings in year 2 would be $17 million, in year 4 would be $34 million, and so on.

This 1.5% in absolute annual reductions differs from the state's Conservation Improvement Program (CIP), which requires utilities to save 1.5% of total sales based on a three-year running average (adjusted for weather variations). If sales rose from 1 million kWh on average from 2014-16 to 1.1 million kWh in 2017, for example, Xcel Energy would still have a savings requirement of 15,000 kWh, based on the prior three years. The net result would be an increase in electricity demand from 985,000 to 1,085,000 kWh. The following year, the savings goal would rise as the 2017 data was included in the 3-year average, but if total sales were still at 1.1 million, then sales including savings would still be far above the 1 million prior year's sales.

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[6] https://www.mncee.org/news/march-2017/cee-to-help-identify-minnesota%E2%80%99s-potential-for-en/

[7] *Energy: Minnesota's Options for the 1990s. The State Energy Policy and Conservation Report to the Legislature. December, 1988.*

[8] *Understanding that there will be some variability for annual weather and compensation for population growth, weather, and other factors*

1.3 Leveraging Utility Investments

Any increase in Partnership resources will compound the investments already made every year by Minneapolis's two energy utilities. Xcel Energy and CenterPoint Energy's suite of state-mandated energy efficiency programs are key resources available to Minneapolis residents. In 2016 alone, Xcel Energy spent $15.7 million and CenterPoint Energy spent $7.1 million in Conservation Improvement Program money within the boundaries of Minneapolis.

These investments of financial incentives and technical assistance don't just bring environmental benefits - they also have significant economic spillover benefits. An evaluation and impact assessment of the CIP program commissioned by the Minnesota Department of Commerce, Division of Energy Resources found the program to have net positive direct and indirect economic impact. The assessment quantified the aggregated statewide economic impact from 2008 through 2013 and the accrued impact through 2032.[9] The assessment quantified the impact of the program on eight economic variables (employment, employee earnings, household income and savings, business revenue, industry production, capital investment and innovation, state domestic product, and utility electricity and natural gas rates).[10] The findings note CIP has a positive economic impact across all eight indicators, and are summarized in the following table.

Economic Variable	Summary of Study Finding(s)*
Employment	• From 2008-2032, CIP activities and ongoing energy savings will result in 8,404 direct and 54,777 net job-years
Employee earnings	• From 2008-2032, CIP will generate between $1,914,347 and $2,210,416 in net employee earnings
Household income and savings	• From 2008-2032, CIP will create between $2,224,284 and $2,555,490 in net household income
Business revenue	• From 2008-2032, CIP will generate between $4,929,635 and $5,937,571 in net revenue and production
Industry production	
Capital investment and innovation	• From 2008-2032, CIP will generate between $3,000,420 and $3,604,442 in net profit
State domestic product	
Utility electricity and natural gas rates	• CIP will likely induce upward pressure on future rates of approximately $0.000705/kWh and $0.00749/therm due to decreased sales
	• CIP provides cost-effective total benefits to utilities, program participants, and society

*All monetary values are presented as fixed 2013 dollars (1,000s).

These investments, and the benefits that come with them, could be significantly increased in Minneapolis if more residents and businesses within the city participated in programs. By investing in improved engagement and reducing barriers to entry for program participants, a modest investment of funds will leverage significant outside resources.

[9] *The Aggregated Economic Impact of the Conservation Improvement Program 2008-2013: Assessing Impacts on Employment, Employee Earnings, Household Income and Savings, Business Revenue, Industry Production, Capital Investment and Innovation, and State Domestic Product Conservation Applied Research & Development (October 2015 - FINAL REPORT); Cadmus, p 1.*

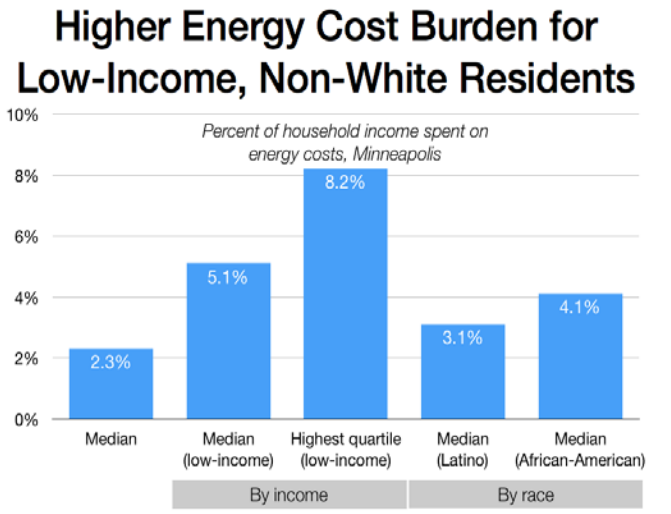
[10] *The Aggregated Economic Impact of the Conservation Improvement Program 2008-2013, Cadmus October 2015, p i.*

1.4 Addressing Energy Inequities

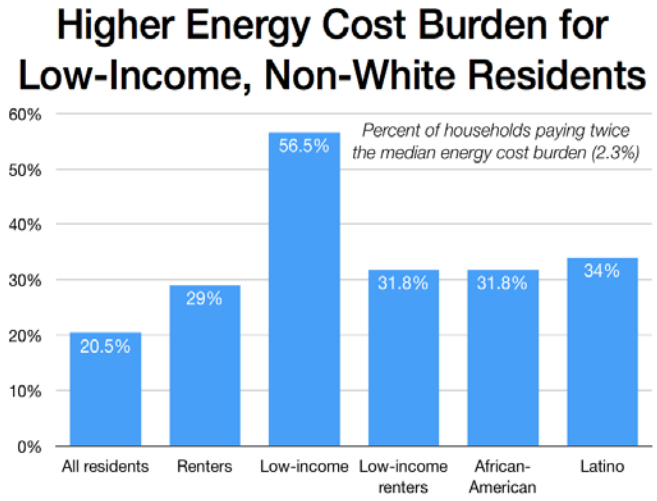
The Clean Energy Partnership is a unique opportunity to address the dual inequalities of energy, which is that poor people and people of color carry the highest energy cost and pollution burdens, but energy efficiency and clean energy program participants are disproportionately wealthier and white.

Energy Cost Burden

A 2016 report authored by ACEEE indicates that the energy cost burden for Minneapolis residents is disproportionately high for low income and minority households.[11] Energy cost burden or energy burden is the percentage of household income spent annually on household energy. The median household cost burden in Minneapolis is 2.3%, while the median burden on low-income households is 5.1%. The highest energy burden quartile for low-income households is 8.2%, nearly four times the median rate. The energy burden for African-American and Latino households is above the median, 4.1% (7.9% highest quartile) and 3.1% (6.1% highest quartile) respectively.[12]



Source: Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities (ACEEE April 2016)



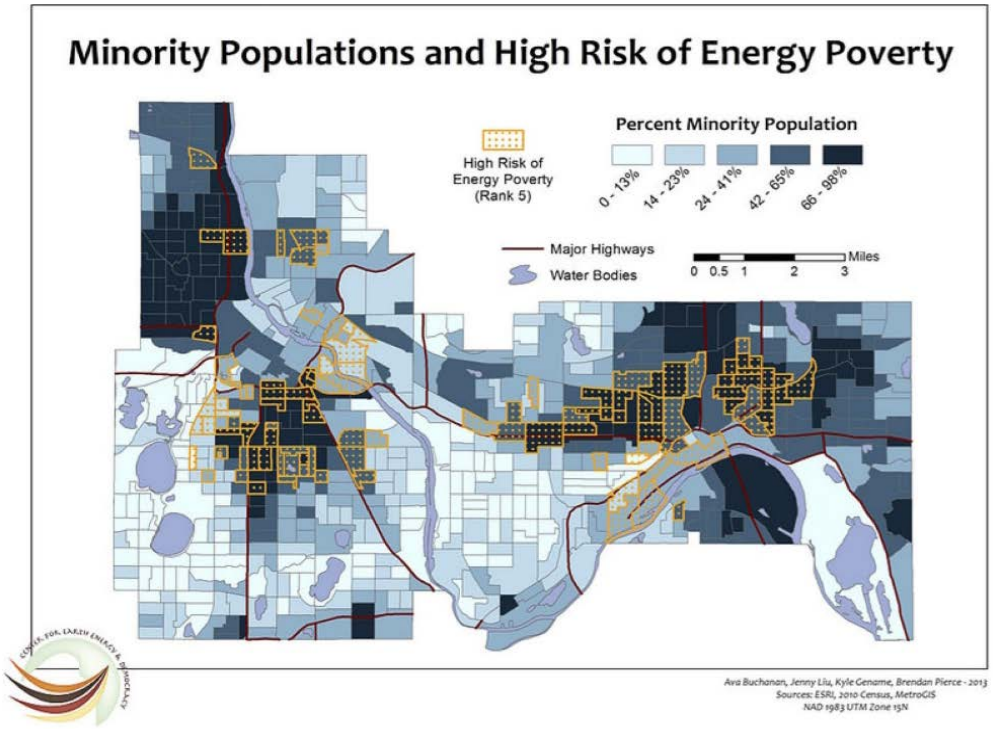
Source: Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities (ACEEE April 2016)

The percentage of households paying twice the city's median energy burden reveals the extent to which low and minority households are impact compared to the average. While 20.5% of all Minneapolis residents pay twice the median cost, the numbers are significantly higher at 56.5% of low-income households, 31.8% of low-income multifamily households, 31.8% of African-American, and 34% of Latinos. In addition, 29% of renters pay twice the median cost burden for energy.

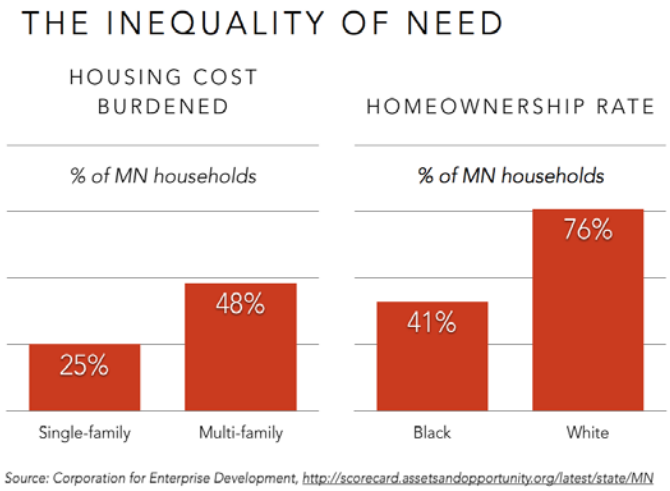
[11] *Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities (ACEEE April 2016).* http://aceee.org/research-report/u1602

[12] *Drehobl, A. and Ross, L (2016) Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities (ACEEE April 2016) Appendix C*

The Center for Earth, Energy, and Democracy (CEED) found similar racial disparity in the risk of energy poverty, as shown in the map displayed. Areas with a high risk of energy poverty overlap areas with a high percent minority population.[13]



The energy cost burden can be compounded by a housing cost burden, as well. In a recent analysis by the Corporation for Enterprise Development (CFED), for example, it found that nearly 50% of Minnesota households in multifamily dwellings are cost-burdened, with a disproportionate share of those families being African American.[14]



[13] *Twin Cities Environmental Justice Mapping Tool. (CEED). Accessed 6/26/17 at* http://arcg.is/2tMs3XZ
[14] *Prosperity Now Scorecard, MN. (Prosperity Now, 2016).* http://scorecard.prosperitynow.org/2016/state/mn

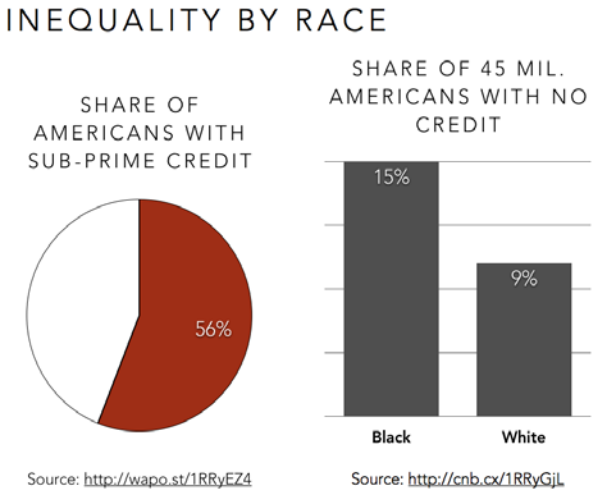
Disparity in Program Access

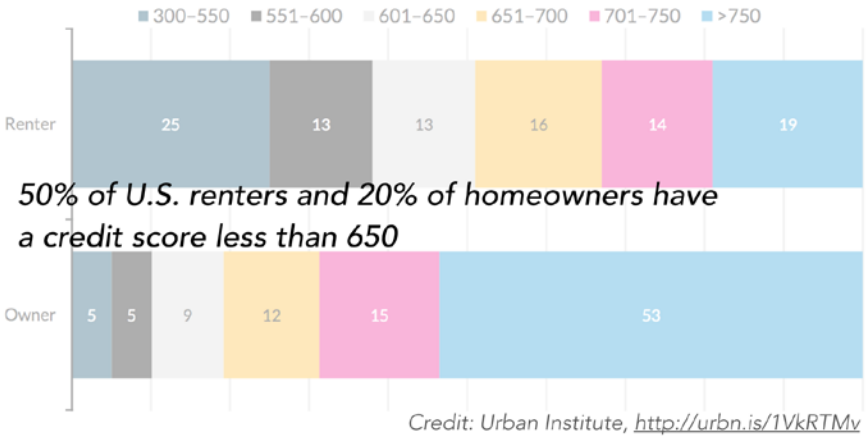
Not only are low-income people and people of color more energy cost-burdened, but they tend to have less access to energy savings programs. OPower provides a powerful statement of this inequality in their analysis of myths of low-income energy efficiency programs:

> *"Low-income households are less likely to have [energy saving measures like] compact fluorescent bulbs and low-flow showerheads, but 25% more likely to have energy-intensive [appliances like] space heaters and 50% more likely to rely on window air conditioning units."*[15]

Many programs fail to address another major barrier: access to credit. Half of Americans have subprime credit, either disqualifying them from or increasing their costs to obtain financing for energy savings projects such as weatherization or solar power.[16] The share of Americans with poor credit is disproportionately people of color.[17] To ensure equitable access, therefore, requires programs that can serve customers regardless of their credit barrier.

This credit issue also persists between renters and homeowners, highlighting another disparity that energy programs must address.[18]





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[15] *Berelson, Serj. "Myths of Low-Income Energy Efficiency Programs: Implications for Outreach." (OPower, 2014). bit.ly/1Smd2nZ*

[16] *Marte, Jonnelle. The majority of consumers have subprime credit scores, report says. (Washington Post, 1/29/15).Accessed 6/26/17 at http://wapo.st/1RRyEZ4.*

[17] *Holland, Kelley. 45 million Americans are living without a credit score. (CNBC, 5/5/15).Accessed 6/26/17 at cnb.cx/1RRyGjL.*

[18] *Li, Wei and Laurie Goodman. Comparing Credit Profiles of American Renters and Owners. (Urban Institute, March 2016). Accessed 6/26/17 at urbn.is/1VkRTMv.*

Unfortunately, research directly corroborating how utility programs replicate inequities has been minimal in Minnesota. However, analysis of energy efficiency programs in California, which outperforms Minnesota on a wide range of racial equity criteria, has demonstrated a systemic bias in energy efficiency program participation towards white, upper income, highly educated homeowners.[19] The title of the work itself is telling: "Who's Participating and Who's Not: The Unintended Consequences of Untargeted Programs."

A challenge for the utilities is that demographic equity is not a success criteria for in evaluating success of statewide conservation programs. However, equity is a goal of the Clean Energy Partnership, and the good news is that the research suggests effective program design can reverse disparities in program participation. ACEEE recommends several strategies to address the disparity, including expansion of low-income programs and engagement, the tracking of demographic data on program participation, leveraging regulatory and policy, expanding financing options, and developing programs to target affordable multifamily housing.[20]

The Climate Action Plan includes explicit goals to address existing community disparities including energy burden, and proactively prevent future disparity stemming from the impact of climate change:

> *Implementation Goal 3. Advance equity in infrastructure and environmental benefits between neighborhoods and communities. Climate action strategies should be implemented in a manner that ensures activities undertaken do not disproportionately negatively impact low -income and communi*
> *disparities wherever possible. Neighborhoods that already have cumulative pollution impacts and high energy burdens should be prioritized for strategy implementation. Financial investment should also be directed toward the most disadvantaged communities. Outreach on initiatives should be conducted through community and neighborhood organizations, in multiple languages, to maximize engagement.*

Meaningful action to ameliorate these long-standing disparities will require sustained engagement and investment. Our recommendations are designed to develop the resources required to address implement a set of strategies that will make energy efficiency and clean energy accessible to all residents and businesses in Minneapolis.

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[19] *Full report: http://aceee.org/files/proceedings/2016/data/papers/2_542.pdf*
Summary presentation: http://beccconference.org/wp-content/uploads/2015/10/presentation_frank.pdf
[20] *Drehobl, A. and Ross, L (2016) Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities (ACEEE April 2016)*

Section 2. Recommended Funding Sources

2.1 Funding Options

The Funding Work Group sought to recommend funding options that would be sustainable, reliable, dedicated to addressing the need, and able to scale up to the size of the challenge and opportunity. We developed the following table to describe some of the options we identified.

Source	Range of funding available	Longevity	Notes
Franchise fee	$1,000,000 to $5,000,000	Open-ended	Requires City Council action to amend the existing ordinance
Foundation grants	$50,000 - $150,000	1-2 years	Good for short term programs or pilots
City-owned renewable energy	~$150,000	20+ years	Would take a few years to develop
General fund	$100,000 - $200,000	1 year at a time	At the mercy of politics and budget shifts every year
Marginal savings from efficiency investments	~$100,000	20+ years	May be hard to isolate from the City general fund
Large commercial sponsorships	~$100,000	1-3 years	Must identify and convince sponsor to give among competing priorities
State grants	~$100,000	1-3 years	
Federal grants	~$100,000	1-3 years	Likely to be few opportunities in current administration
Utility contributions (separate from CIP)	~$25,000	Open-ended	Unlikely to increase beyond current discretionary contributions and CEP staffing without major regulatory change
Site host for renewable energy	~$20,000	20+ years	Could be a near-term opportunity

We did not include CIP programs in this analysis of potential funding sources, as they are generally designed to be accessible across the entirety of Xcel and/or CenterPoint's territories and not focused on achieving Minneapolis-specific goals. However, both Xcel and CenterPoint have stated that they may be able and willing to design CIP programs that are exclusive to Minneapolis, which could be a significant additional resource for meeting the goals of the City. In fact, Xcel is currently developing a refrigeration efficiency program that is focused on reaching small businesses in Minneapolis. The in-kind value of these potential program offerings is significant.

2.2 Our Recommendation: Increase the Utility Franchise Fees

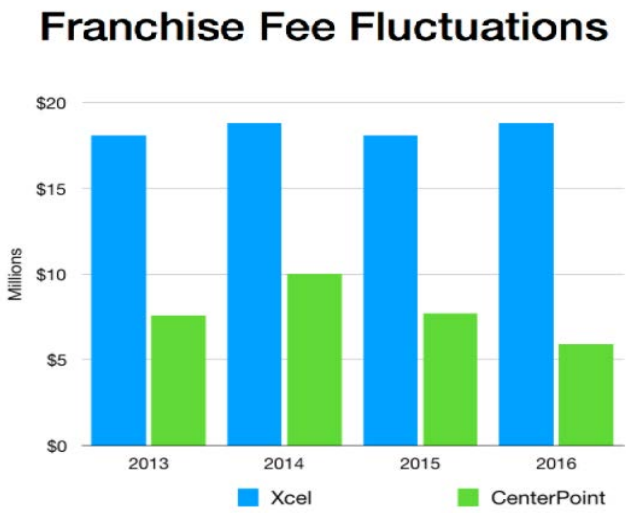
While the Work Group agreed that the Partnership should pursue all reasonable funding opportunities, especially for one-time projects, we recommend raising the utility franchise fees to generate the scale of long-term funding we think is necessary for achieving Partnership goals.

The City of Minneapolis collects a utility franchise fee from Xcel Energy and CenterPoint Energy in return for their agreement to operate in the city. These fees are passed on to customers as a line item on their monthly energy bills. Fees are set by ordinance as a percentage of charges - 4.5% for residential customers, 5.0% for commercial customers, and 3.0% for industrial customers.[21] Collections total approximately $26 million per year, dependent on weather-related energy use.

The table below shows the average annual franchise fee collection amounts from each utility, based on data collected from 2013-2016 (see Appendix A for more detailed data).

Average Total Franchise Fee Collection in Minneapolis				
Utility	**Residential (4.5%)**	**Commercial (5.0%)**	**Industrial (3.0%)**	**Total**
Xcel	$5,509,813	$11,152,598	$1,806,280	$18,468,691
CenterPoint	$3,959,405	$3,258,792	$574,009	$7,792,206[22]
TOTAL	**$9,469,218**	**$14,411,390**	**$2,380,289**	**$26,260,897**

As noted, the amount fluctuates based on weather, much more so for the fee on natural gas sales than for electricity. Currently, all revenue generated from utility franchise fees go directly into the Minneapolis general fund, no matter how much is generated.



[21] *The Industrial rate class has a somewhat misleading name. It does not solely include businesses that manufacture goods or are zoned for industrial use. Rather, it contains the largest commercial users, regardless of their actual business type. That means that there are some small industrial businesses in the Commercial class and plenty of large non-industrial businesses in the Industrial class.*

[22] *The revenue generated by CenterPoint's annual franchise fee fluctuates significantly each year based on weather patterns. During colder winters, natural gas usage increases significantly, which leads to an increase in the fees generated by users. From 2012 to 2016, annual revenue from CenterPoint's franchise fee has ranged from $5.9 million to $9.9 million. As electricity usage is much less weather-dependent, Xcel's franchise fee fluctuates much less.*

For a better sense of the current impacts of the franchise fee on individual residents and businesses the table below shows, for each utility, the average customer payments made on a monthly basis (see Appendix B for more detailed data).

Average Monthly Per-Customer Franchise Fee Charges			
Utility	**Residential (4.5%)**	**Commercial (5.0%)**	**Industrial (3.0%)**
Xcel	$2.57	$49.85	$141.87
CenterPoint	$2.73	$22.97	$1,017.75[23]
TOTAL	**$5.30**	**$72.81**	**$1,159.62**

Raising the franchise fee by a small percentage will generate significant, ongoing funding necessary to achieve the city's Climate Action and equity goals without jeopardizing other city services. Of all the funding options available, the Funding Working Group concluded that only a franchise fee increase has the potential to reach the scale and sustainability needed.

In addition to raising the franchise fee, the City and the Partnership should continue seeking other forms of funding that allow the piloting of new approaches and to take advantage of additional technical expertise. Foundation and government grants should be sought where available, as they were used to temporarily support the commercial building benchmarking program. The City, Xcel, and CenterPoint should also seek out opportunities to utilize CIP funds creatively to address customer needs in Minneapolis. Additionally, the utilities and the City could work together prior to the next triennial fillings to propose programs to pilot or research.

By investing a significant amount of sustainable funding into energy efficiency programming and engagement, we can leverage utility CIP funds much more effectively than we currently do, and generate energy efficiency savings for residents and businesses that overshadow the additional cost of a franchise fee.

2.3 Expected Revenue Generated

In order to achieve our engagement, equity, and energy savings goals, the Funding Work Group recommends the City of Minneapolis raise the franchise fee by 0.5% across all customer classes (residential, commercial, and industrial). Raising these fees would generate, on average, an additional $2.89 million in funds per year.

The following table shows the estimated new revenue generated by an increased franchise fee. These estimates are based on the average annual expected franchise fee revenue shown in the previous section.

[23] *Each utility has different ways of categorizing which businesses are included in the Industrial rate class. Xcel includes more than 1,000 businesses in the Industrial class, whereas CenterPoint includes fewer than 50 businesses. Those differences heavily skew the per-customer averages shown above, skewing the per-business costs in CenterPoint's Industrial class to be much higher than those in Xcel's Industrial class.*

Anticipated Total New Revenue Generation from 0.5% Franchise Fee Increase				
Utility	**Residential (0.5%)**	**Commercial (0.5%)**	**Industrial (0.5%)**	**Total**
Xcel	$612,201	$1,115,260	$301,047	**$2,028,508**
CenterPoint	$439,934	$325,879	$95,668	**$861,481**
Total	**$1,052,135**	**$1,441,139**	**$396,715**	**$2,889,989**

Due to fluctuations in weather, the revenue generated each year may fluctuate by hundreds of thousands of dollars. The City should make contingency plans, such as reserving one-time programs for years with higher revenues or planning to supplement with general fund dollars in years of lower franchise fee collections.

The Funding Work Group modeled the projected impact of the recommended franchise fee increase on each customer class. The tables below show the expected per-customer impact of raising the franchise fee on a monthly basis (see Appendix C for more data on the per-customer impact of raising the franchise fee).

Anticipated Monthly Per-Customer Incremental Franchise Fee Increase			
	Residential (0.5%)	**Commercial (0.5%)**	**Industrial (0.5%)**
Xcel	$0.29	$4.99	$23.65
CenterPoint	$0.29	$2.17	$171.54
Total	**$0.57**	**$7.16**[24]	**$195.19**

Anticipated Total Monthly Per-Customer Franchise Fee Charge After Increase			
	Residential (5.0%)	**Commercial (5.5%)**	**Industrial (3.5%)**
Xcel	$2.86	$54.84	$165.52
CenterPoint	$3.04	$25.26	$1,187.37
Total	**$5.89**	**$80.10**	**$1,352.89**

[24] *As stated in the previous section, the per-customer franchise fee can vary widely in the commercial sector because of the significant differences in energy use between businesses. While a monthly increase of $7.16 may be representative of many businesses, the impacts could range from a few dollars a month to over $100 per month.*

The per-customer impact on entities in the commercial rate will vary widely on the size and type of business, much more so than in the residential sector. The graphic shown provides three illustrations of the impacts of increasing the electric franchise fee by 0.5% on commercial customers, based on data from Xcel Energy on the actual average electricity consumption of a few local companies.

Average business electricity franchise fee

	Average business	24/7 gas station	Large grocery store
Average monthly franchise fee:	$50	$166	$952
Effect of 0.5% increase:	$5	$17	$95

We believe that these per-customer impacts are reasonable for three reasons:

1. Even after the increase, the average residential customer in Minneapolis will pay lower franchise fees than the average customer in several other nearby cities that set a flat rate franchise fee for every account, including Brooklyn Park ($14.00/month), Bloomington ($7.50/month), Richfield ($8.20/month), and St. Paul ($6.88/month).[25]

2. Because franchise fees in Minneapolis are proportional to energy use and not a flat fee, this increase will create an incentive for businesses and residents to pursue energy efficiency improvements.

3. The additional funds generated by this increased fee will dramatically increase the ability of residential and commercial customers to access programs that will help them reduce their energy use. As more residents and businesses take up these programs, they will be able to decrease their energy bill significantly and far outweigh the additional cost of this fee.

It is critical that the City of Minneapolis put into place a mechanism for ensuring that the additional fees generated are set aside solely for the purpose of increasing energy efficiency and clean energy investments among residents and businesses in Minneapolis.

[25] *Xcel rates: http://bit.ly/2s6HoRV*
CenterPoint rates: http://bit.ly/2s70KpX

Section 3. Recommended Uses of Dedicated Funding

The Funding Work Group proposes that the City increase investment in the Clean Energy Partnership to dramatically increase energy savings for all city energy consumers.

We believe that we should take a tailored approach to expanding participation and access in each of the following four sectors of energy users:

1. Residents who live in single-family buildings (1-4 units)
2. Residents who live in multifamily buildings (5+ units)
3. Businesses who operate in small buildings (under 50,000 square feet)
4. Businesses who operate in large buildings (over 50,000 square feet)

Energy consumers in each of these sectors will contribute new revenue generated through an increased franchise fee, but they will all also be able to benefit from the dramatically-increased resources available through these spending recommendations. The goal of these efforts should be to allow all customers to take action to reduce their energy bill by at least as much as the franchise fee increase represents.

In the following sections, we have outlined the unique barriers faced by consumers in each sector and a set of activities that we think will address the needs of that sector. At this stage, we have not outlined individual line-item budgets for the recommended uses. However, we do recommend that the City allocate no more than 60% of its budget to either the residential or commercial sector to ensure that there is enough funding for approaches in each sector. However it is allocated, the split of funding should reflect the city's goals for equitable access to energy savings programs and address the disparities between homeowners and renters, between low-income residents and middle and upper-income residents, between residents and business owners of color and white residents and business owners, and between small businesses and large businesses.

3.1 Single-Family Residential

Climate Action Goals

There are several goals in the city's Climate Action Plan and Energy Vision related to the single-family residential market. The most pertinent and pressing goal is to reach 75% of single-family households with "whole-house energy retrofit services" by 2025. We estimate that approximately 10% of Minneapolis single-family homes have participated in these programs, with around 1% more reached in their homes each year by utility programs, and a fraction of those pursuing retrofits. Another target is to reduce energy use by 17% by 2025.

The City has a goal of an overall reduction in greenhouse gas emissions 15% by 2015 and 30% by 2025 and a nearly emission-free electricity supply by 2040. The 15% by 2015 goal has been met, but it's difficult to say if we are on track for the 30% by 2025 goal. Additionally, Xcel reports plans for a 63% carbon-free supply by 2030. Additionally, the City set a target of acquiring 10% of its electricity from local renewable resources by 2025 (this is currently less than 1% and may require additional intervention).

The City also set a goal that "Race, ethnicity, income, and age are no longer indicators for who bears pollution impacts or receives economic or environmental benefits." As shown in the previous sections, this goal has not yet been met.

The City has a goal that businesses and residents consider energy information in economic decisions from making additional energy efficiency investments, making purchasing decisions, or renting or buying property. The City's commercial building benchmarking program impacts large properties, but single-family shoppers are left uncertain about their prospective home's energy use.

Current Activities: Xcel Energy and CenterPoint Energy's CIP Programs

The two utilities serve approximately 1% of Minneapolis single-family households per year with energy services that include:

- Rebates on light bulbs taken off the purchase price
- Rebates paid after the purchase of furnaces, heat pumps, air conditioners, and refrigerators
- Home Energy Squad visits, which include an assessment of a home's insulation and air sealing for evaluation of further investments and direct install of weather-stripping, low-flow showerheads, efficient light bulbs, programmable thermostats, and other items

Program outreach traditionally includes advertisements, bill inserts, and direct mail. The Clean Energy Partnership launched a Community Engagement Pilot in late 2016 that is testing out more direct and targeted outreach - including community meetings, door-knocking, and phone calls - in several south Minneapolis neighborhoods.

Sector-Specific Barriers

There is consensus among our Work Group members that energy services have not and are not likely to (without change) address inequities in energy burdens or access to energy-saving programs. In particular, utility programs have been less successful in delivering energy savings to non-white and lower-income residents of Minneapolis largely because they rely on channels of communication more readily accessible by middle-class and upper-class white residents and program delivery models (including loan-based financing) that a disproportionate number of non-white or low-income residents cannot access affordably (see prior citation of work by Frank and Nowak on this issue).[26]

Barriers include low credit scores that preclude the use of loan financing, reluctance to take on personal debt, and limited cash flow to pay a short-term premium for financing for long-term energy savings.

Proposed Activities

Partnership revenue can help implement two core activities in the Clean Energy Partnership Work Plan to reach the goals for single-family residences: improve community engagement, subsidize home assessments, and lower financial barriers to energy efficiency improvements. These efforts would accelerate progress on reaching 75% of households (requiring an increase from serving 1% to 7-8% of households per year, or approximately 10,000 homes per year) and remove barriers for traditionally underserved residents.

[26] *Full report: http://aceee.org/files/proceedings/2016/data/papers/2_542.pdf*

Community Engagement

Community engagement is one of the critically important methods for increasing energy program participation rates and the socioeconomic and racial diversity of participants.

The CEP Community Engagement pilot program currently underway provides a template for effective community engagement. Driven by three neighborhood organizations and Community Power, it serves six south Minneapolis neighborhoods with a population of close to 22,500.[27] The pilot has a total budget of $30,000, so simply scaling it up citywide would require an annual budget of $550,000. More realistically, applying the lessons learned from this pilot and fully staffing the effort would require several hundred thousand more dollars per year through 2025. This work would also need to integrate multi-family housing engagement.

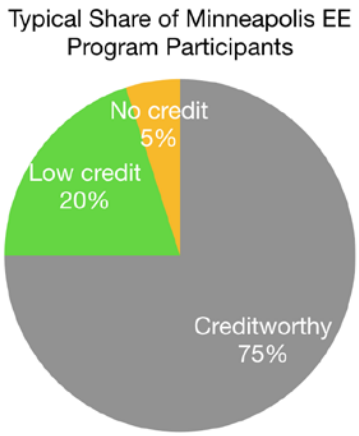
Subsidize Home Energy Assessments

The Home Energy Squad enhanced service includes a blower door test and thermal imaging scan, key measures for determining the most cost-effective retrofit options. At $100, it presents a barrier to many prospective low-income customers. The Partnership could partially or fully subsidize the cost of these assessments for all Minneapolis residents, or it could focus solely on subsidizing visits for low-income residents or residents in areas designated as Green Zones.

Additionally, the Partnership could recapture the fee for those customers that proceed with recommended improvements. In a recent pilot, the Home Energy Squad was testing new streamlined assessment, financing, and contractor options and converted approximately 20% of customers from prospects to retrofits. If engagement had no effect on conversion rates, the Partnership would need $800,000 per year to pay for the enhanced service for 8,000 of 10,000 homes that did not take further action.

Affordable and Accessible Financing

More affordable and accessible financing is also crucial to both meeting the topline goal and provide equitable access. As an illustration, approximately three-fourths of customers served by utility conservation programs are prime borrowers, able to secure loans at the lowest interest rates for home improvements (5% interest). The remaining quarter could borrow funds at higher interest rates (7%) or are not creditworthy at all (the latter are about 5% of the total). The portion of low-credit customers is likely higher than represented in existing programs, as many may simply ignore opportunities to participate on the assumption that they lack the financial wherewithal.



If we consider serving around 10,000 homes per year, the portion needed to be on track toward the 75% goal by 2025, there could be significant costs to ensuring equitable participation.

[27] *Holland, Corcoran, and the four Nokomis East neighborhoods (Wenonah, Keywaydin, Minnehaha, and Morris Park)*

The average loan amount for home retrofits by Center for Energy and Environment (CEE) is $8,000. To serve the 20% low-credit portion (2,000) of 10,000 households requires a loan pool of $16 million. (For comparison, CEE's total loan pool across the region is $8 million). Assuming sufficient interested and capable lenders, the challenge would be buying down interest rates low enough to gain program participation. For each participant, buying down the interest rate by 1 percentage point on an $8,000 loan would cost $250. To buy down all 2,000 loans to 5% from 7% would cost $1 million, each year.

The "no credit" population of 500 households would require a different strategy. A loss reserve could cover the cost of defaults. Assuming a very high default rate relative to the average loan recipient (10% v. the 1.5% average), it would require a $400,000 loss reserve to cover the estimated $4 million in loans to these households. Again, this is an annual cost based on the annual participation needed to reach city goals.

A final area of Work Plan investment is to "develop and explore additional options for financing energy efficiency improvements in 1-4 unit buildings." This could a financial analysis of tariff-based on-bill repayment (also known as "inclusive financing"[28]), a more accessible complement to loan-based financing for creditworthy customers that could also provide advantages to commercial customers.

In addition to researching and developing inclusive financing options, the City could also consider matching utility rebates as a way to increase the financial incentives for residents to implement rebate-eligible improvements. This would be a simple and fast method for bringing down costs in the short term while inclusive financing models are in development.

Expected Impacts

Investing in community engagement and financial accessibility of Minneapolis energy services would have several significant impacts:

- $21 million per year leveraged from the Conservation Improvement Program dollars spent by Xcel Energy and CenterPoint Energy.
- $80 million per year in retrofit work for local contractors by meeting the benchmark of serving 10,000 households per year.
- Over $1 million per year in energy savings by meeting the potential of reducing energy use by 1.5% per year.
- Reduced energy burdens for many households previously unreached by existing conservation programs.

Potential Leverage

There are several tools to further leverage existing utility conservation spending and proposed Partnership investment.

- CenterPoint Energy is developing an on-bill repayment mechanism for energy-related loans; Xcel Energy could adopt the same policy.
- Either utility could offer more pilot, utility-financed conservation programs, such as Xcel Energy's new program for commercial refrigeration in Minneapolis.

[28] *https://ilsr.org/report-inclusive-energy-financing/*

- The City of Minneapolis could follow the recommendation in its Climate Action Plan to adopt an ordinance to require energy use data disclosure as part of the truth-in-sale of housing process (see Austin Energy's policy, for an example[29]).
- The Partnership could perform a financial analysis of tariffed on-bill financing to see how it could fill gaps left by loan-based financing for residential and commercial properties.

3.2 Multifamily Residential

Climate Action Goals

The Minneapolis Climate Action Plan (CAP) identified significant climate emissions reductions potential from the residential sector. The plan set a goal of achieving 15 percent energy efficiency (measured from the growth baseline) in residential buildings by 2025. Those efficiency improvements account for 19% of the expected total emissions reductions laid out in the plan. In the Buildings & Energy sub-section on Residential Buildings there are several recommended activities that relate to the multifamily residential sector, including:

> *2. Help 75 percent of Minneapolis renters and rental property owners participate in efficiency retrofit programs by 2025, with a distribution that reflects the current percentage of low and moderate income rental housing in the city. Programs targeted to residential rental facilities should be expanded. Existing programs like weatherization are available to low- and moderate-income renters, and as programs expand they should reflect the distribution of household incomes in the community. The split financial incentives between renters and rental property owners must be addressed in order to reduce carbon emissions from rental property. The City should use its rental licensing authority, along with targeted incentives, to increase energy efficiency in rental property, while ensuring that the energy savings benefit renters.*
>
> *3. Create time-of-sale and time-of-rent energy label disclosure. New homeowners and potential tenants are a target group to promote energy upgrades, as they can be more receptive to making these investments (particularly when financing is available). Tenants could also use an asset rating label to make comparisons about energy performance and cost between units or buildings.*

As noted above (Section 1.3), the Climate Action Plan includes *advance equity in infrastructure and environmental benefits between neighborhoods and communities* as an implementation goal.

Current Activities

Xcel Energy and CenterPoint Energy's CIP Programs

There are several Conservation Improvement Programs (CIP) available through CenterPoint Energy and Xcel Energy that can help multifamily renters and property owners reduce their energy use including the jointly-offered Multifamily Building Efficiency program and Energy Design Assistance. In addition, Xcel Energy currently offers multifamily and tenant energy efficiency options through the following programs: Multifamily Energy Savings Program (MESP) and the One Stop Efficiency Shop. CenterPoint Energy serves multifamily housing buildings through a number

[29] *Energy Conservation Audit and Disclosure Ordinance, http://bit.ly/2tiX8Wh*

of general conservation programs as well as two multifamily housing-specific conservation program offerings: the Multifamily Building Efficiency and the Low-Income Multifamily Housing Rebate programs.

In 2016, Xcel Energy's CIP investments funded improvements reduced annual energy usage in Minneapolis by more than 5.4 million kWh. The programs served 619 customers, resulting in a cost savings of $542,242, and issued rebates totaling $1,649,393. This is roughly a 40% increase in energy savings and 45% increase in cost savings over 2015, while serving the nearly the same number of customers.

CenterPoint's 2016 CIP investments will result in more than 76,000 Dekatherms of annual energy savings. The programs served 90 customers, resulting in a cost savings of $452,839, and issued rebates totaling $302,767. This is roughly a 9% increase in energy savings and 20% increase in cost savings over 2015. Participation dropped in 2016 to 90 customers from 136 in 2015.

The 2017-18 CEP Work Plan included the following activities related to the multifamily sector:[30]

- The Partnership will develop and conduct outreach and engagement strategies to drive greater participation in energy efficiency and renewable energy programs among multifamily buildings. Outreach and engagement efforts should be informed by program utilization maps, data, and the expertise of EVAC and other stakeholders to target poor-performing buildings and buildings in areas of the City with low participation rates.
- The City of Minneapolis will develop a policy to expand the Building Benchmarking and Transparency ordinance to include multifamily residential buildings.
- The City of Minneapolis will develop a strategy utilizing City regulatory authority under the tiered rental licensing structure to encourage energy efficiency implementation.
- The Partnership will explore and as feasible develop a City program to use the multifamily Building Efficiency program and other programs to preserve existing affordable, unsubsidized housing.
- The City of Minneapolis will develop a Sustainable Building Policy for city-financed new or significantly renovated projects (examples may include TIF, AHTF, Green Homes North, etc.) to require that energy efficiency efforts include the Sustainable Buildings 2030 Energy Standard.

Sector-Specific Barriers

There are several key barriers that must be addressed in order to achieve success in the multifamily housing sector. First, the current multifamily energy efficiency programs are not scaled to meet the goal set by the Climate Action Plan. Current program utilization rates are reaching just over 1% of units per year compared to an average rate of 8-9% necessary to hit the 75% participation target by 2025. Expanded program options are needed to reach the diversity properties types and owner across the sector.

A second key barrier is access to capital and financing for property owners. The lack of financing options slows the adoption of deep energy efficiency retrofits leading to a low yield of energy reduction in properties. Funding and financing options are need to make it easier for market rate and existing unsubsidized affordable housing to participate in programs.

[30] https://mplscleanenergypartnership.org/wp-content/uploads/2017/02/cep-17-18-work-plan_adopted.pdf

Proposed Activities

Expanded Engagement

The Partnership should develop and conduct outreach and engagement strategies to drive greater participation in energy efficiency and renewable energy programs among multifamily buildings. Expand outreach and engagement efforts should be informed by program utilization maps, data, and the expertise of EVAC and other appropriate stakeholders to target poor performing buildings and buildings in areas of the city with low participation rates.

Expansion of the Current CIP Offerings

The joint Xcel Energy and CenterPoint Energy Multifamily Building Efficiency program should increase capacity to address the scale of the housing sector, and additional programs should be developed tailored for specific owner and building types. As noted above, the program offerings are not funded to tackle the estimated 5,900 units per year to meet the 75% of multifamily housing target (based on 71,013 housing unit in buildings with 5 or more units).[31]

In addition, the program should tune the incentives levels to address split-incentives and decrease payback periods. The program should be expanded to include financing options such as loan- and tariff-based on-bill financing, and work through the partnership to engage lenders and housing funders to create access to capital for improvements.

Finally, the City could potentially further incentivize participation in the Multifamily Building Efficiency program by matching the rebates offered by the program.

City of Minneapolis Benchmarking Program

The City should expand the 2013 City of Minneapolis commercial building benchmarking and disclosure policy to include multifamily housing properties. Mirror the development of the commercial policy program by phasing in compliance requirements over time, and support building owners through a technical assistance pilot period.

A multifamily benchmarking program would provide the city with robust individualized data on energy usage among large residential buildings, and provide building owners the data and support needed to significantly reduce energy costs.

Develop a targeted program for Naturally Occurring Affordable Housing (NOAH)

Convene the Partnership to explore and as feasibly implement a new program to encourage the implementation of efficiency measures to preserve existing affordable, unsubsidized housing. The program should couple incentives and financing options for property owners, and utilize the multifamily Building Efficiency program. This exploration includes a carrot approach to rental licensure inspections for under-performing properties, and exchange increased incentives in exchange for maintaining affordability. Program partners include CEP Board, EVAC, CPED, housing finance partners, and others.

[31] *US Census American Community Survey (ACS) 2015*

Expected Impacts

Increased investment in the multifamily sector in the programs noted above will improve access to energy efficiency programs across the community, decrease energy burden disparity in the most impacted communities, accelerate energy savings, and encourage renewable energy generation.

A rapid increase in energy and cost savings from increased and expanded program utilization to meet current targets based on current programs could result in 34,820,292 kWh and 587,792 Dekatherms and combined $4.1 million in new savings annually. Program expansion is based on current utilization ratio split between Xcel Energy and CenterPoint Energy, and assumes that all program counts have no overlap between utilities. This is roughly an 8-fold expansion of current rates.

The energy savings and cost savings potential of a multifamily benchmarking and technical assistance program can be modeled from the results of the EnergyScoreCard Minnesota Pilot Project.[32] The study's outcomes included:

- A 9% increase in rebate programs utilization in the treatment group (19% compared to 10% in the control group).
- A 5% decrease in energy consumption for a typical master-metered building year 1 to year 2. Master metered buildings accounted for 17% of the analyzed buildings.
- A 7% savings in heating energy (on a weather-normalized basis) representing 80% of master-metered building savings.
- A 30% decrease in water usage by in master-metered buildings in the treatment group the second year compared to the control group

The pilot also demonstrated that benchmarking was cost-effective for master-metered properties, with potential for extending the benefits to other building types in a larger or longer program.[33]

Potential Leverage

There are several tools to further leverage the proposed Partnership investments:

- Utilize regulations for rental licensure including the tiered rating system to encourage energy efficiency measures and CIP utilization.
- Coordinate with CPED to incorporate energy efficiency measures, create financing options, house preservation programs for market driven affordable housing

[32] *EnergyScoreCards Minnesota: Results from Energy and Water Benchmarking in 500+ Minnesota Multifamily Buildings (CARD Final Report 2015); EnergyScoreCards, Inc., Minnesota Green Communities, University of Minnesota Center for Sustainable Building Research, Minnesota Housing, and Center for Energy and Environment.*

[33] *The value of savings produced in master-metered buildings during the pilot ($269,380) is 2.15 times the cost of providing the service to the master-metered buildings ($125,435). Because a large portion of costs were one-time (for program design and launch) and savings only began in the second year, the cost-effectiveness of long-term program would improve over time, assuming savings persist or deepen each year. For instance, in a hypothetical 10 year program targeting master-metered buildings, cumulative savings would be $7.79 for every $1 spent, assuming savings start in the second year and continue each of the remaining years at the same level.*

- Either utility could offer more pilot, utility-financed conservation programs, such as Xcel Energy's new program for commercial refrigeration in Minneapolis.
- The City of Minneapolis could follow the recommendation in its Climate Action Plan to adopt an ordinance to require energy use data disclosure as part of the truth-in-sale of housing process (see Austin Energy's policy, for an example).[34]

3.3 Small and Large Commercial

Commercial Sector Goals in the Climate Action Plan

The Minneapolis Climate Action Plan featured one prominent commercial sector goal of achieving 20 percent energy efficiency (measured from the growth baseline) in commercial and industrial buildings by 2025. Those efficiency improvements account for 47% of the expected total emissions reductions laid out in the plan. The Climate Action Plan did not include any explicit goals for engaging a certain number or percentage of businesses to participate in energy efficiency programs, as it did in the residential sector.

In the CAP's Buildings & Energy section there are several recommended activities that relate to the commercial sector. Many of those activities relate to setting specific policies to incentivize commercial efficiency through the building code and through licensing and permit processes. There were two activities in the "Cross Cutting Strategies" subsection related to engaging large and small businesses through targeted campaigns:

> *2. Launch a public-private energy efficiency campaign to catalyze action in businesses large and small. Most of the energy in Minneapolis is consumed by businesses, necessitating efforts that businesses and properties can undertake to reduce their energy usage. The aggregated potential energy savings from small businesses can also be significant and should be identified and targeted…*
>
> *13. Support the adoption and implementation of emissions reductions plans by small and minority-owned businesses. The City of Minneapolis is currently exploring the expansion of the Minnesota Technical Assistance program (MNTAP) to assist small, local businesses assess their energy use and the range of potential retrofits. Expand this program and target outreach to achieve equal representation from minority-owned businesses.*

The Climate Action Plan also identifies that 7% of total citywide emissions reductions will come from the industrial sector and the University of Minnesota, with one related activity: to continue supporting a loan program that would help industrial companies become more energy efficient.

Current Activities in the Commercial Sector

Xcel Energy and CenterPoint Energy's CIP Programs

There are several Conservation Improvement Programs (CIP) available through CenterPoint Energy and Xcel Energy that can help commercial entities reduce their energy use.

[34] *Energy Conservation Audit and Disclosure Ordinance: http://bit.ly/2tiX8Wh*

In 2016, Xcel Energy invested $8.8 million in commercial CIP programs, which will reduce energy usage in Minneapolis by more than 75 million kWh annually and save more than $7.5 million each year for their customers. These commercial CIP investments generated more than 90% of the energy savings made by Xcel's CIP programs in Minneapolis. The largest of these programs are the Commercial Efficiency Program, the Energy Design Assistance Program, CEE's Lighting One-Stop Program, and Xcel's Lighting Program.

CenterPoint's 2016 commercial CIP investments totaled approximately $1.1 million and will result in an annual savings of 5.2 million therms and $2.8 million for their commercial customers. The savings generated by these commercial programs count for more than 80% of CenterPoint's total CIP-generated savings in Minneapolis. The largest of these programs are the Heating & Water Heating program and the Energy Design Assistance program.

City of Minneapolis Benchmarking Program

In 2013, Minneapolis adopted the commercial building benchmarking and disclosure policy that required public buildings 25,000 square feet and greater and private commercial buildings 50,000 square feet and greater to report energy and water performance annually to the City. Program compliance requirements were phased in over the past four years, and now the City has robust individualized data on energy usage among large commercial entities.

The City has begun to implement some strategies to help these large businesses embrace energy efficiency opportunities, including releasing Scorecards for individual buildings, hosting energy efficiency workshops, and helping incentivize building managers to pursue ENERGY STAR certification. They also are able to better target individual low-performing sectors and buildings.

In 2016, the City celebrated the 2nd annual Minneapolis Building Energy Challenge, which encourages benchmarking buildings to reduce greenhouse gas emissions from commercial building energy use 15% by 2020. A diverse mix of 15 public and private buildings committed to the Minneapolis Building Energy Challenge. Two participating buildings, Calhoun Square and the City's Royalston Maintenance Facility, were recognized for achieving the challenge goal of 15% greenhouse gas emission reductions.

The Minneapolis Green Business Cost Share program

In 2012, the City of Minneapolis launched the Green Business Cost Share program to incentivize businesses to implement improvements to reduce air pollution. In the first three years of the program, they targeted point-source pollution sources at auto shops and drycleaners.

In 2016, the Green Business Cost Share piloted a new fund focused on energy efficiency. Matching funding was made available to businesses who made rebate-eligible improvements. In the short time since it has been available, it has helped over 30 businesses make energy efficiency improvements that will save over 7 million kWh annually, and has leveraged private and utility investment in these businesses. The $115,000 spent by the city leveraged over $475,000 from participating businesses. Over its lifetime since 2012, the program has substantially reduced a number of local pollutants and helped businesses save upwards of $700,000 per year.

Lake Street Small Business Engagement Pilot

In the Lake Street corridor of Minneapolis, the Lake Street Council has piloted an approach to supporting small businesses to make energy efficiency improvements. Utilizing their existing

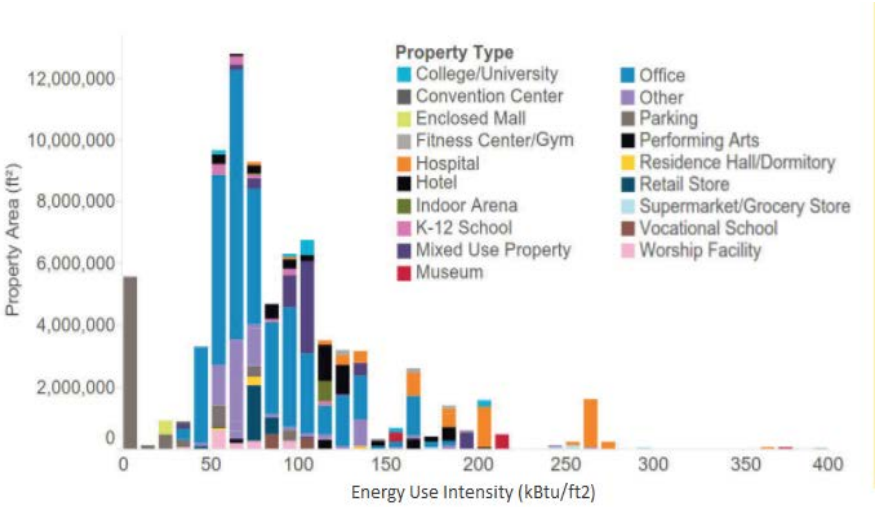
relationships with businesses, they have done extensive outreach to help individual businesses enroll in free services available from the utility providers and CIP implementers.

Between 2014 and 2017, they helped more than 150 businesses in the Lake Street corridor receive energy assessments from Energy Smart, a utility-funded program that serves businesses free-of-charge. Over 30 of those businesses have gone on to make rebate-eligible improvements. The Lake Street Council has also helped businesses take advantage of the Minneapolis Green Business Cost Share program and other forms of assistance that make energy efficiency improvements more affordable.

Lake Street Council has helped test this approach on a very small scale in a few other business corridors in Minneapolis, including the West Bank and Seward. However, the uncertain, stop-and-start nature of grant funding (which has so far been the primary source of funding for the Lake Street Council's efforts) has impeded this approach from scaling up.

Barriers in the Commercial Sector

Large businesses



The Partnership is relatively well aware of the opportunities that exist among large businesses due to the data collected by the City through its benchmarking program. We know, for example, that the greatest opportunities for improvement exist in hospitals, medical offices, hotels, and worship facilities. The graph shown here from the 2015 Energy Benchmarking Report displays the energy use intensity (EUI) of benchmarked businesses, displayed by type of facility.

However, there are still several barriers to action for large businesses that an additional supply of financial resources, training, and other in-person assistance could help overcome.

Small businesses

Small business owners face several barriers in energy efficiency implementation, including significant limitations on their time and working capital, limited familiarity with utility programs, and landlord-tenant disputes over expensive building improvements. There are especially high barriers in program participation among businesses owned by people with limited English skills, by businesses who rent, and by business owners with poor credit. Many businesses are simply unaware that they can do anything to cut their energy costs, much less aware of the specific resources available that could make improvements more affordable.

EVAC's Small Commercial Working Group has begun to explore the opportunities related to the small business field. They plan to make a set of recommendations by the end of 2017 for how the City could better support small businesses to make energy efficiency improvements.

Industrial businesses

We are less certain about the opportunities that exist among industrial businesses. There is little Minneapolis-specific data to draw on, due to data privacy limitations. The industrial customer base include some of the most significant energy users in Minneapolis, and the cost of energy is an essential component of their business. We think it is likely that many industrial businesses could benefit from additional resources and incentives to become more energy efficient and competitive.

Proposed Activities

Increase and sustain funding for the Minneapolis Green Business Cost Share Program

The Minneapolis Green Business Cost Share Program is a successful incentive program for commercial energy efficiency. It is already set up to operate differently for small and large businesses, and is effective for both. In 2017, the program started to see significant demand for energy efficiency funds, and by June the $500,000 allocated for the year had already been claimed. The fund has significant growth potential and, given its clear impact, may be a good candidate for matching funds from foundations or the state government. The program should be funded by the City with least $1 million annually, which will allow a growing number of both large and small businesses to participate in it without depleting funds mid-year.

Fund local community-based organizations to engage local small businesses

The business engagement model demonstrated on Lake Street should be replicated and expanded to other business corridors of the City. The City already partners with business associations and technical assistance providers across the city in many forms through the Business Technical Assistance Program (BTAP), the Great Streets Business Development Support (BDS) program, and other initiatives. A City program that partnered with these organizations to reach out to businesses would help address some of the barriers to participation, and would help more business development professionals in Minneapolis become familiar with energy efficiency opportunities. Additionally, partners can help businesses deal with barriers outside of the scope of most utility programs, such as helping negotiate landlord-tenant differences or helping new businesses make the right equipment investments when they are starting up or remodeling. This program doesn't currently exist, but the EVAC Small Business Work Group will be working on designing the elements of such a program by the end of 2017. The budget of such a program is yet to be determined, but could range from $150,000 to $300,000 per year depending on how many business districts were chosen as targeted areas.

Increase technical assistance and resources available to benchmarking participants

As the City has implemented the benchmarking ordinance, it has begun to offer a variety of resources to participants. First, City staff are able to provide limited technical assistance and advising to participants to help them get familiar with the process. City staff have also begun to set up targeted workshops on topics related to energy efficiency in certain fields. Finally, the City has tested out buying down the cost for large businesses to seek ENERGY STAR certification, which can be continued in future years as more large commercial entities develop interest in the certification. An investment in sustaining and increasing these efforts would allow the City to better

leverage the time and energy that building owners are investing in the energy benchmarking program, and would allow for the City to pursue other innovative approaches.

Subsidize the entry cost for individual businesses to participate in energy studies

There are a handful of commercial CIP programs, such as Xcel's TurnKey Program, that have an entry fee to participate. Businesses of the appropriate type and scale to benefit from these programs should be able to receive help to access the programs through a buy-down of the entry fee. The utility's entry fee cost could be reimbursed by the City, as they have done previously with Home Energy Squad participation costs. Alternatively, the program buy-down offer could be contingent on the business taking action on the results of the program. The costs of each utility-subsidized study can range from a few hundred to a few thousand dollars, depending on the size of the business.

Research and develop inclusive financing models

Access to financing is a barrier for both residential and commercial customers. The City should study the best methods available for decreasing financial barriers and invest in starting or expanding financial tools to commercial customers. As suggested in previous sections, this should initially be pursued through a thorough study of financing options, but may ultimately require some investment into a loan guarantee or other options.

Expected Impacts

The programs listed above will create significant opportunities to generate long-term savings for businesses. Businesses in Minneapolis spend nearly $365 million each year on their energy bills. If we are successful in helping businesses in Minneapolis reduce their energy usage by 1.5% each year, their collective energy bills will be reduced by more than $5.4 million each year.

The Green Business Cost Share program has a huge potential to impact business efficiency. As of June 2017, the City has already received applications for over $450,000 in funds for energy efficiency and clean energy projects this year alone. If those projects are funded, they will leverage over $3.1 million in private investment and utility CIP funds. Additionally, the businesses who make those improvements will save over $625,000 on their energy bills annually and reduce carbon emissions by more than 14.8 million pounds of carbon each year.

A small business engagement program will ensure that the City's investments in energy efficiency are made available to all business customers regardless of size. While we expect a large portion of the City's total commercial energy reductions to occur among large businesses, we want to ensure that the benefits of efficiency also accrue to the small local businesses that help Minneapolis's neighborhoods thrive. By creating a program that supports business development organizations to engage small businesses, we will

Potential Leverage

There are several tools to further leverage existing the proposed Partnership investment.

- The existing utility CIP programs can continue to be utilized at a greater scale. Commercial CIP investments from Xcel and CenterPoint totaled nearly $10 million spent in Minneapolis in 2016, and could be increased significantly if the City helped spur on more program participation among businesses.

- Either utility can continue to explore and launch targeted CIP programs, similar to Xcel Energy's new program for commercial refrigeration that will launch later in 2017 with a specific geographic focus in Minneapolis.
- The City of Minneapolis already partners with business development organizations throughout the City through the Community Planning and Economic Development (CPED) Department. We can leverage those relationships and support the City's partners to become liaisons of energy programs on behalf of the Partnership.
- The EVAC Small Business Work Group is undergoing a process of bringing together stakeholders to identify the best way for the City to engage small businesses. The expertise and resources generated through that process will be
- National energy organizations, such as ACEEE and the Institute for Market Transformation, are interested in developing approaches to dealing with challenges in the commercial sector, and have developed tools like the "green leasing" model, which addresses the split-incentive between landlords and tenants. These models could be implemented as part of an expansion in engagement and technical assistance.

Section 4. Recommended Timeline

We recommend the following activities and timeline for passing a franchise fee increase.

July 11, 2017: Energy Vision Advisory Committee (EVAC) 2nd Quarter Meeting

We recommend that EVAC consider our proposal and pass the following motion:

The Energy Vision Advisory Committee recommends that the Clean Energy Partnership Board support the City of Minneapolis in investing in activities that accelerate energy efficiency and renewable energy adoption by amending the ordinances that set franchise fee rates with CenterPoint Energy and Xcel Energy to increase the franchise fee rates by 0.5% in each customer class. This revenue shall be dedicated to the Clean Energy Partnership to facilitate energy savings by customers of all classes but particularly to address equitable access to savings for all residents and businesses in Minneapolis regardless of race, socioeconomic status, or property ownership status.

July 25, 2017: Clean Energy Partnership Board 3rd Quarter Meeting

We recommend that the Clean Energy Partnership Board consider the proposal and EVAC's motion and pass a motion in support of this proposal.

August 2017: Mayoral Budget Proposal

We recommend that Mayor Betsy Hodges include two items in her budget proposal to the Minneapolis City Council:

- Franchise fee increases at our recommended levels
- Budgeted funding for activities reflect our recommended priorities and spending levels

December 2017: Budget Approval

We recommend that the Minneapolis City Council approve a city budget that includes:

- Franchise fee increases at our recommended levels
- Budgeted funding for activities reflect our recommended priorities and spending levels

The Council must also pass a separate ordinance amendment in order to increase the franchise fee rates. After passing the ordinance, the Council must give written notice to the utilities about the change in ordinance, after which the utilities must wait at least 60 days before they can enact the change in a new billing period. Due to this timeline, we don't expect that the franchise fee rate changes will occur until March of 2018.

Appendices

Appendix A. Total Franchise Fee Payments

Xcel Energy Franchise Fee				
Year	**Residential**	**Commercial**	**Industrial**	**Total**
2013	$4,713,832	$11,600,795	$1,855,540	$18,170,167
2014	$5,784,220	$11,289,749	$1,776,476	$18,850,447
2015	$5,540,278	$10,837,234	$1,708,091	$18,085,604
2016	$6,000,919	$10,882,612	$1,885,014	$18,768,546
4-Year Average	**$5,509,813**	**$11,152,598**	**$1,806,280**	**$18,468,691**

CenterPoint Energy Franchise Fee				
Year	**Residential**	**Commercial**	**Industrial**	**Total**
2013	$3,787,632	$3,081,626	$705,912	$7,575,169
2014	$5,028,792	$4,257,829	$695,299	$9,981,920
2015	$3,919,109	$3,247,799	$496,994	$7,663,902
2016	$3,102,089	$2,447,913	$397,831	$5,947,834
4-year average	**$3,959,405**	**$3,258,792**	**$574,009**	**$7,792,206**

Appendix B. Per-Customer Franchise Fee Payments

Xcel Energy	**Residential**	**Commercial**	**Industrial**
Average total annual franchise fee collection (based on data from 2013-2016)	$5,509,813	$11,152,598	$1,806,280
Number of customers in 2015	178,762	18,644	1,061
Average annual customer payment	$30.82	$598.19	$1,702.43
Average monthly customer payment	$2.57	$49.85	$141.87

CenterPoint Energy	**Residential**	**Commercial**	**Industrial**
Average total annual franchise fee collection (based on data from 2013-2016)	$3,959,405	$3,258,792	$574,009
Number of customers in 2016	120,701	11,825	47
Average annual customer payment	$32.80	$275.58	$12,212.96
Average monthly customer payment	$2.73	$22.97	$1,017.75

A note about this data: We approximated the average customer payment using the number of customers reported by Xcel in 2015 and CenterPoint in 2016. The number of customers does fluctuate regularly, but not in any significant or predictable way.

Appendix C. Per-Customer Impacts of Franchise Fee Increase

The tables below highlight some of the per-customer impacts that a franchise fee increase may have on an average year. As noted previously, the total averages shown in the Industrial category are somewhat deceptive, as CenterPoint and Xcel have different criteria for categorizing businesses in the Industrial category.

Anticipated Annual Per-Customer Incremental Franchise Fee Increase			
	Residential (0.5%)	**Commercial (0.5%)**	**Industrial (0.5%)**
Xcel	$3.42	$59.82	$283.74
CenterPoint	$3.64	$27.56	$2,035.49
Total	**$7.07**	**$87.38**	**$2,319.23**

Total Annual Per-Customer Franchise Fee Charges After Increase			
	Residential (5.0%)	**Commercial (5.5%)**	**Industrial (3.5%)**
Xcel	$34.24	$658.01	$1,986.17
CenterPoint	$36.45	$303.14	$14,248.45
Total	**$70.69**	**$961.15**	**$16,234.62**