

University of Wisconsin Oshkosh

Residential Energy Conservation Ordinance

Proposal for the Oshkosh Sustainability Board

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Executive Summary

Most Oshkosh homes (74%) were built prior to the first energy codes in 1978, requiring efficiency standards for new buildings (Town of Oshkosh Smart Growth Comprehensive Plan, 2003). Many Oshkosh homes are out of date in terms of energy efficiency and waste a tremendous amount of energy. The Residential Energy Conservation Ordinance (RECO) is a means to efficiently update these existing homes and promote Oshkosh's sustainability goals of water and energy conservation. San Francisco's RECO has resulted in an average energy efficiency increase of 15% (Reiss, 2007).

This ordinance promotes the efficient use of energy and water by prescribing upgrade standards for homes at the point of sale and renovation. RECO improves energy efficiency in residential buildings by reducing the amount of energy used for heat, water, and lighting. For example, if a resident would like to sell their home in Oshkosh, either the seller or the buyer would be required to spend a certain amount of money on upgrades such as ceiling insulation and low flow shower heads. These measures are specifically selected to conserve natural resources, improve equipment performance, and save the homeowner money.

RECO specifically addresses residential energy consumption. Every home or apartment building sold, or undergoing substantial renovations must meet energy and water efficiency requirements. RECO requires a home inspection and filed documentation after the efficient upgrades have been completed. Feedbacks and information disclosures are required to be provided to the buyer. There are spending limits and exceptions applicable to residents.

There are minimal costs associated with the ordinance. The cost of inspection, filing documentation, and upgrades are the resident's responsibility. Regarding the sale of a home, the responsibility can be negotiated between the seller and the buyer. In terms of a renovation, the responsibility falls on the property owner. RECO is revenue neutral for the city of Oshkosh. The city will receive funding through inspection fees, filing fees, and a fine if compliance is not met.

The Residential Energy Conservation Ordinance has been successfully implemented in cities across the country but has not yet been implemented in Wisconsin. This is a chance for Oshkosh to be a leader in sustainability. There are four main cities in the United States that are exceptionally applicable to the city in terms of population density, climate, household income, number of households, and greenhouse gas emissions. These cities are used as a guideline for Oshkosh's proposed ordinance.

Stakeholders were interviewed to provide the necessary understanding of the public's perception. Stakeholders included city officials, energy inspectors, city benchmark officials, realtors, landlords, homeowners, and renters. The public appreciated the spending limits and incentive programs associated with the ordinance. This integrative approach allows the public to participate as it provides equal and affordable opportunities for all members of the community. The response of the public was overall positive with a few concerns about finances and misconceptions of climate change. These concerns can be bridged by providing additional information on climate change and financial incentive programs.

A RECO will help the City of Oshkosh achieve a sustainable future. The ordinance is an opportunity for improved social equity through residential financial savings and incentive programs. A RECO applies to diverse demographics by providing opportunities for everyone on the socio-economic spectrum. It will improve the quality of living and health of the community. A RECO promotes commendable use of the environment by reducing greenhouse gas emissions and natural resource use. The increase in value of upgraded homes will help the local economy

and set standards for nicer homes in the housing market. A RECO will help the city of Oshkosh work towards the city's sustainability goals and lay a foundation for a brighter future.

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Introduction

Aldo Leopold, a former resident of Wisconsin and one of the most influential environmentalists, once said in writing his famous land ethic, “examine each question in terms of what is ethically and esthetically right, as well as what is economically expedient” (1949). These parameters have been carefully followed, in proposing a Residential Energy Conservation Ordinance (RECO), to benefit the maximum amount of life on this shared planet. RECO requires residents to do energy upgrades on their home or rental unit at the time of a major home renovation or at the point of sale. As Berkeley’s Office of Energy and Sustainable Development puts it, a RECO is meant to help insulate residents from energy price increases by reducing the amount of energy used for heat, water, and lighting (2017). These measures are selected to conserve natural resources, improve equipment performance, and save the homeowner money (City of Berkeley, 2017).

A RECO would help combat the largest current threat to human existence, climate change, as well as to help people save money on electric and water bills. Climate change, as defined by NASA, is the earth’s long-term change in climate of a region or city including warming, cooling, and other changes besides temperature (2011). A RECO has potential to benefit the environment, society and economy. Oshkosh has already specified goals in these areas within the Sustainability Plan from 2012 and has showed commitment through becoming a Green Tier Community. Sustainability would be addressed by reducing greenhouse gas emissions, by allowing the most amount of people to participate and benefit, and by increasing energy efficiency and cost savings.

A RECO is not currently being implemented in Wisconsin which would allow Oshkosh to be a leader in sustainability that would set a precedent for surrounding communities. The following report contains the extensive research that has been done on RECO including a more in-depth analysis of the current problem and the specifics of the ordinance. The suggested ordinance is a compilation of other RECO’s to fit Oshkosh’s climate and population. Included is also a list of cities and counties in the United States who have implemented a RECO, interviews with a variety of different stakeholders and their perspectives, and the specifics of the costs. Potential barriers are also addressed, along with a more in-depth analysis of how this ordinance can advance sustainability. An appendix includes a sample ordinance written for Oshkosh, along with other ordinances that have been referenced from the benchmarking cities. A Residential Energy Conservation Ordinance will introduce economic, environmental, social benefits to the City of Oshkosh, also allowing Oshkosh to pioneer this ordinance for the first time ever in the Midwest region.

Problem Identification

Climate change is one of the most pressing issues today which greenhouse gas emissions are contributing to and the Oshkosh Sustainability Advisory Board recognizes this as well.

Residential and rental properties contribute to greenhouse gas emissions through energy use and the City of Oshkosh has identified goals for these areas in their Sustainability Plan. For energy, Oshkosh aims to promote incentives and assistance for energy conservation projects, have wider use of sustainable home aspects such as ENERGY STAR appliances, promote methods that individuals can use to have the most sustainable energy use, and promote methods for measuring performance. For water, the city wants to offer incentives for water conservation improvements, update standards for water conserving plumbing fixtures, and ban non-essential water uses.

In addition, in 2007, the City of Oshkosh signed the US Mayors Climate Protection Agreement committing to reduce greenhouse gas emissions to meet the Kyoto Protocol targets of a 7% reduction (ICLEI “Milestone 2”, 2016). In 2008, the city committed to adopting the International Council for Local Environmental Initiatives five milestones to reduce greenhouse gas emissions. Oshkosh conducted a greenhouse gas emission analysis with the chosen year, 2007 (ICLEI “Milestone 2”, 2016). An audit of the activities releasing greenhouse gas emissions and a projection of how much these activities are likely to grow was conducted. Energy consumption was the primary source of greenhouse gas emissions within the community. With electricity and natural gas making up 73% of total emissions, the residential sector makes up roughly 19% of total greenhouse gas emissions. 65% of residential emissions were generated through the consumption of electricity and natural gas making up the other 35% (ICLEI “Milestone 2”, 2016). Oshkosh has also completed the second milestone in setting a reduction target. This is the specific greenhouse gas emission reduction goal that Oshkosh aims to achieve by a designated year. In 2016, Oshkosh set emission reduction targets:

- Short-Term Emissions Target: 25% below 2007 baseline by 2025
- Mid-Term Emissions Target: 40% below 2007 baseline by 2035
- Long-Term Emissions Target: 80% below 2007 baseline by 2050

Oshkosh has taken substantial steps to increase sustainability efforts and programs. However, the city has not yet completed the final three milestones: develop an action plan, implement the climate action plan, and monitor progress and report results. It will be difficult for the city to abide by these goals without the help of further policy changes.

Current trends in attitudes demonstrate that the public is supportive of energy conservation. However, many people in support of home energy conservation do not have the financial viability. The public’s opinions of energy are greatly determined by how directly affected the area (Michaud, et al., 2008; Langevin, et al., 2013). Even though someone may support energy conservation, they may not have the funds to do it without incentive programs (Stenner & Hobman, 2015; Chen-fei, et al. 2017). Next, a pattern showed that higher educated people statistically supported energy conservation (Steel, et al. 2015; Boag, et al., 2016; Anderson & Lipsey, 1978). Finally, overall trends for energy conservation and renewable energy support has been rising nationally and internationally. Many people want to conserve energy for personal and environmental benefits but lack the funds to do so, thus leaving current energy trends unaltered. Incentive programs in this case, are a necessity to include the most amount of participation in energy conservation. Incentives would help combat costs for those unable to afford them.

Positive attitudes on energy conservation and goals in the Oshkosh Sustainability Plan set up a good scenario to advanced sustainability in Oshkosh. A RECO proposal has potential to help Oshkosh advance in the direction of a more sustainable future. Residential energy contributes to greenhouse gas emissions through energy and water use and if no action is taken, emissions will continue to increase. Under a business-as-usual scenario, Oshkosh’s community

emissions, based on 1% population growth, is projected to grow approximately 27% over 10 years (ICLEI “5 Milestones”, 2013). If emissions continue to increase, then the city of Oshkosh will continue to contribute to the rapid rates of current global climate change.

By addressing the issue of climate change, a reduction of Oshkosh greenhouse gas emissions is the central goal. The Global Warming Solutions Act requires the reduction of greenhouse gases; local governments are implementing policies for efficient improvements. One of these tools is the Residential Energy Conservation Ordinance (RECO), which provides a means for improving the energy efficiency of residential buildings. For example, San Francisco, California’s RECO increased energy savings by 15%, which Oshkosh has the means to do as well (Reiss, 2007). This would also insure that new and future homeowners’ homes would be up to date on appliances and features. These upgrades would also present energy efficient, eco-friendly homes which would lower energy and water costs as well as increase air quality for all residents and children. A RECO has not been adopted in the Midwest which allows not only Oshkosh, but the state of Wisconsin to become a leader in adopting an ordinance of this nature. Adopting a RECO allows Oshkosh to be able to bridge gaps in income by providing opportunities for all to participate in reducing energy consumption and greening Oshkosh.

Recommended Ordinance

The Residential Energy Conservation Ordinance (RECO) specifically addresses residential energy consumption. Every home or apartment building sold or transferred or undergoing renovations, valued at \$50,000 or more, must meet energy or water efficiency requirements. This proposal pertains to all homeowners, including landlords. Studios, lofts and live-in spaces that are 1,500 square feet or less are considered residential housing, and must also comply with the RECO. Spaces larger than 1,500 square feet are exempt from the RECO. These energy and water efficiency requirements have been compiled from and based on various cities’ RECO ordinances (See Appendix A-E). The City of Oshkosh Residential Energy Conservation Ordinance has been prepared by the Environmental Studies Capstone Studies (see Appendix F). All residents must meet energy or water efficiency requirements for the following items:

Table 1: Energy and Water Efficiency Requirements

Item	Requirement
Toilet	1.6 gal./flush toilet or flow reduction devices
Showerhead	3.0 gal./min. flow rate
Faucet	2.75 gal./min. flow rate
Water Heater	Insulation wrap of R-12 value
Hot and Cold Water Piping	Insulate first 2 feet from water heater to R-4 value
Hot Water Piping in Pumped, Recirculating Heating Systems	Insulate all piping R-4 value

Exterior Doors	Permanently affixed weather-stripping, and door sweeps or door shoes
Furnace Ductwork	Seal duct joints, add insulation wrap to R-3 value
Fireplace Chimneys	Dampers, doors, or closures
Ceiling Insulation	Insulate to R-40 value. Horizontal hatches insulate to R-20. Vertical hatches insulate to R-10
Common Area Lighting (Multi-Unit Building Only)	Replace incandescent with compact fluorescent lamps (CFL) of at least 25 lumens per watt
Exterior Walls	If uninsulated, empty space must be filled with insulation. If there were less than a 2-inch space available, insulation would not be cost-effective and, therefore, is not required.
Box Sills	Insulate to R-10 value on either the inside or outside of the building
Floors Over Unheated Basements	Crawl spaces or outside spaces must be insulated to R-19 value.
Windows	Upgrade to multiple-glazed or provided with storm windows. Must be equipped with effective latches
Thermostats	Upgrade to programmable thermostat
Appliances	Upgrade to Energy Star appliances

Inspection

All homes sold or substantially renovated must demonstrate compliance with these renovations by being inspected and filing documentation. In terms of renovations, the initial RECO inspection fee is included in the city's construction permit fees. There is no additional RECO fee or inspection required, outside of regular building inspection fees. For sale or transfer of property, cost falls on the given party responsible (see Table 2). Costs of inspection were developed from Berkeley's residential energy conservation ordinance (see Appendix A).

Table 2: Cost of Inspection for Sale/Transfer of Property

Service	Building Type	First Unit per Structure Cost	Each Additional Unit Cost per Structure
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Initial Inspection	Single Family Dwelling	\$100	N/A
	Two or more units per structure	\$100	\$50
Re-Inspection	Single Family Dwelling	\$50	N/A
	Two or more units per structure	\$50	\$25

Documentation

RECO's implemented in other cities have successfully created forms of documentation to follow. Berkeley's RECO provides examples of these forms (see Appendix A).

Responsibility

In regard to the sale of a home, the responsibility for RECO compliance and inspection fee may be assumed by either the seller or the buyer of the home. If the buyer assumes responsibility, documentation must be filed with the city, and RECO requirements must be completed within one year of the date of sale. If the seller assumes responsibility, requirements must be met before the close of escrow. If requirements are not met, sale can be stopped, or \$500 fine is imposed on the buyer. In terms of renovation compliance, the responsibility falls on the applicant for the building permit, generally the property owner. The terms of responsibility were based on Berkeley's ordinance (see Appendix A).

Spending Limits

There is a limit to the amount of money that a resident is required to spend to meet RECO upgrades. The resident need not spend more than:

- 0.75% of the final property sales price when a single structure of two housing units or less is sold or transferred
- 0.75% of the final property sales price for each structure when a property with more than one structure of two housing units or less is sold or transferred
- \$0.50 per square foot when anyone structure with three or more housing units is sold
- 1% of renovation costs when a property is undergoing a renovation of \$50,000 or more.

For example, the resident would like to sell their home in Oshkosh, valued at \$137,300, Oshkosh's average home value in 2017 (Zillow, 2017). Either the seller or the buyer would need to spend roughly \$1,000 on upgrades (0.75% of the property value) or \$0.50 per square foot. The spending limit is determined as the most cost-efficient method for the responsible resident.

If the spending limit is reached and the property is sold again, the property must be brought into compliance by the next seller or buyer. The responsibility for RECO upgrades cannot be transferred to another party more than once. The sample spending limits have been obtained from Berkeley's residential energy conservation ordinance (see Appendix A).

Exemptions

An interesting and intriguing part of RECO is the exemptions available for residents. For example, the following exemptions are examples from Chico, California and Burlington, Vermont's RECO ordinances (see Appendix B, C, & D). In certain cases, or scenarios, specific people are exempt from following RECO's requirements and upgrading their house.

- The sale, exchange, or transfer of residential housing which was constructed on or after July 1, 1991;
- Factory-built housing, manufactured or mobile homes;
- Sales or transfers pursuant to a court order, such as: a. Transfers ordered by a probate court or during administration of a trust or conservatorship; b. Judicial foreclosures or other transfers by a trustee in bankruptcy;
- Transfers because of default to bank;
- Transfers from one co-owner to one or more co-owners;
- Transfers to a spouse or relative;
- Transfers between spouses as a result of divorce;
- Studios, lofts and live-in spaces that are larger than 1,500 square feet are exempt from RECO.

Feedback, Information Disclosures, and Incentives

Feedbacks refer to the process of providing citizens with information about their behavior to modify future behavior. An energy cost and consumption history feedback is required to be provided to the buyer. The feedback should include at least the last twelve months of energy use. Providing citizens with information on their own electricity usage as well as peer comparison feedback is a noteworthy tactic. Those who pay for energy use are 16% more likely to monitor and conserve the amount of energy that they do use (Gillingham et al., 2012). Providing consumers with real-time feedback on their electricity use and emissions can help motivate homeowners to conserve and monitor the amount of energy that they use and motivate landlords to invest in more energy efficient appliances and technologies (Gillingham et al., 2012). Feedback has proven effective when consistent and frequent. Information disclosure on the inspection and energy efficiency improvements are also required to be provided to the buyer. This information is necessary for the buyer of the home to make further improvements in efficiency upgrades. Montgomery County, Maryland provided guidelines for information disclosures (See Appendix E). Financial incentives are also available (see costs section).

Costs

Ordinance

The Residential Energy Conservation Ordinance has a few associated costs in its implementation. Specifically, there are four different areas of associated costs: cost for the seller, cost for the buyer, cost for homeowner for renovation, revenue neutral for the City of Oshkosh. The costs section of this proposal is based on Berkley, California's ordinance which can also be found in Appendix A.

Seller

The RECO for the City of Oshkosh requires an energy audit to be performed on a home before it is listed to sell whether it be privately or through a real estate agency. The mandatory energy audit assists the seller in identifying areas to improve or meet the mandatory investments in upgrades. The mandatory audit further notifies the future homeowner of areas that can additionally be improved once in possession of the home. The cost associated with bringing in the energy auditor is the seller's responsibility, however, can be negotiated between the buyer and the seller. The reason for allowing this negotiation is that most of the time, a buyer will bring in a home inspector to assess the home before they move forward with purchasing it and most home inspectors are qualified through the state to perform energy audits on the home. Therefore, instead of having two separate inspections on the home, the buyer may end up covering the cost of the energy audit but further responsibility of who is paying for it can be negotiated between the buyer and the seller. However, the seller is still required to provide an energy audit, therefore the cost cannot be forced upon the buyer of the home. Refer to Table 2 for estimated costs for energy auditor. The purpose of the RECO is so the seller can improve the home's efficiency by either investing 0.75% of the home's value in energy efficiency upgrades or choose to spend \$0.50 per square foot of the home in energy efficiency upgrades. The two investing price points are important as the \$0.50 per square foot investment will be more affordable for people with small homes. Also, before the home is sold, the seller must provide the 12-month usage history to the future buyer. If the homeowner is unable to provide all 12 months of the usage history, they must provide all utility information available from occupancy within the last year unless the home was unoccupied for the past 12 months. A \$20 filing fee along with documentation of upgrades and spending amounts must be provided to the City of Oshkosh as proof of investing the required amount into the home. If the upgrades are not made before the home is sold, a \$500 fine will be given to the seller which is also issued by the City of Oshkosh.

Buyer

With the implementation of the RECO in the City of Oshkosh, there would be little to no responsibility of costs for the buyer of the home. As mentioned before, the purpose of the ordinance is to improve energy efficiency in homes throughout the City of Oshkosh and to reduce reliance and purchasing of fossil fuels. Although it is not mandatory, as the potential buyer of a home, it is important to have a qualified home inspector evaluate the home to identify problematic areas that could potentially cost the buyer more money after purchasing the home. The older the home is, the more likely there are problematic areas. A similarity can be made in terms of energy efficiency of a home. The older the home is, the more likely the home has areas that would benefit from upgrades to improve energy and water efficiency and reduce utility costs.

Since the buyer of the home is likely to bring in private home inspector, most home inspectors are qualified to perform energy audits through the United States Department of Energy, the inspector would can perform the mandatory energy audit as well. However, it is still the responsibility of the seller to cover the cost associated with the energy audit meaning that this is not a loophole to delegate the responsibility of costs associated with the energy audit to be put on the buyer of the home. If this process is pursued, the home energy audit cost must be negotiated privately between the buyer and the seller. In Wisconsin, the average cost for a home inspection of a single-family home under 2,000 square feet, without the cost of the energy audit,

is estimated to be \$300-350. Refer to Table 2 for more information on inspection pricing. Negotiation between the buyer and the seller can further be established in the overall responsibility, however, if this responsibility is transferred, energy efficiencies must be made within one year of purchasing the home and a \$20 filing fee with proof of documentation must be provided to the city. This is not a loophole to push all the costs on the buyer which is why this would need to be negotiated between the buyer and the seller. If the spending limit of energy efficiency upgrades is reached and the property is sold again, the property must be brought into compliance by the next seller or buyer. The responsibility for RECO upgrades cannot be transferred to another party more than once. The sample spending limits have been obtained from Berkeley's residential energy conservation ordinance (see Appendix A).

Homeowner for Renovation

The Residential Energy Conservation Ordinance also pertains to homeowners who are performing renovations on their home that exceed a cost of \$50,000. Whenever a homeowner in the City of Oshkosh is performing a renovation on their home, that is older than ten years of the current date and exceeds a total of \$50,000 of total renovation costs, it will be mandatory through RECO that the homeowner brings in an energy auditor to assess their home and identify areas of improvements for energy efficiencies. Additionally, it is mandatory that the homeowner invests 1% of the total renovation cost into energy efficiency upgrades. The City of Oshkosh is responsible for performing audits on homes undergoing renovations within the city, the city's inspections unit would be responsible for performing the mandatory energy audit on the home. Once again, a \$20 filing fee and proof of energy efficiency upgrades must be provided to the City of Oshkosh. A \$500 fine will be distributed to the homeowner if compliance with RECO is not met. Overall, all responsibility falls upon the renovating homeowner.

City of Oshkosh

The Residential Energy Conservation Ordinance is revenue neutral for the City of Oshkosh. As it would become the city's responsibility to provide the mandatory energy audits by the inspections unit when a home is undergoing a renovation over \$50,000, the City of Oshkosh would be making more revenue from the money they receive through providing these home inspections. The ordinance only requires the city to get involved in the buying and selling of a home to issue penalties if the investment of 0.75% or \$0.50 per square foot in renovations is not met by the seller. Consequently, the city will issue a \$500 fine if compliance with the RECO is not met. The city would also have the choice of revoking the sale of the home if compliance is not met. The city would also be responsible for filing documentation and collecting a \$20 filing fee of the RECO and to make sure everyone follows meeting the ordinance. Aside from labor costs associated with providing the inspections unit to perform energy audits, the City of Oshkosh would generate revenue through providing energy audits, receiving \$20 filing fee, and would receive the \$500 compliance fine. The City of Oshkosh would have to use very little resources to generate more revenue for themselves. While more homes in the City of Oshkosh become more efficient through this ordinance, the city will reduce spending costs associated with purchasing natural gas and other resources provided to the residents in the community.

Incentives

Various incentive programs are available for low income households to assist in upgrading the efficiency of a home in the City of Oshkosh. It is very important to establish incentive programs that are available in better efforts to address all financial ranges of homeowners in Oshkosh. The RECO has been created to address all demographics in the city and to create a better environment through the push to become more sustainable. Allowing for citizens of Oshkosh with varying income levels to equally participate in the Residential Energy Conservation Ordinance is one of the main goals of the ordinance and will create better living for everyone. To expand on the incentives mentioned, WE Energies who is partnered with Focus on Energy offers three types of incentive programs for low income households who meet specific requirements. According to WE Energy's website homepage, the first incentive deals with Whole Home Improvements with available incentives ranging from \$850 to \$2,250 (2017). The second incentive is for Heating and Cooling with incentives ranging from \$75 to \$875 (2017). The third incentive is for Renewable Energy with incentives ranging from \$650 to \$200 (2017). The Wisconsin Home Energy Assistance Program (WHEAP) also aids with heating costs, electric costs, and energy crisis situations. As the WHEAP focuses most of its attention on helping residents afford heating and electric costs through assistance programs from federal and state funding, there is, however, a way for qualified participants to receive a total replacement of a furnace or boiler. To learn more information, visit the WHEAP homepage online for specifics on the qualification process. Focus in Energy provides various incentives for residents who qualify. For example, an option for simple energy efficiency upgrades can be made with acquiring a 'pack' which includes new light bulbs or plumbing fixture upgrades. Focus on Energy also provides incentives for whole home improvements after an energy audit is performed on the home. While mostly focusing on air sealing and insulation, there are two separate tiers which both offer different incentive amounts depending on the desired percentage of energy reduction. Tier 1 offers incentives ranging from \$850-\$2000 and Tier 2 offers incentives ranging from \$1,000-\$2,500 (2017). Focus on Energy also provides rebates for heating and cooling improvements, whether it is one improvement or multiple, qualified individuals can receive rebates from installing new furnaces, central air systems, heat pump water heaters, or more options which is explained on their website. To receive these incentives, a resident must meet the specific qualifications depending on household size and the combined annual upper income of the household. Further information on specific qualifications and the application process can be found on the Focus on Energy website. Overall, there are multiple incentives available to residents of the City of Oshkosh who would otherwise potentially struggle to make these upgrades. Adhering to all demographics of income in Oshkosh is one of the most important concerns for the Residential Energy Conservation Ordinance. Providing information on the availability of incentives and rebates highly increases the success of the RECO.

Benchmarking

Wisconsin Cities

Every city in Wisconsin that is listed on the Green Tier community website has been investigated, but no Wisconsin cities currently have a RECO in place. On the contrary, other cities in Wisconsin have codes, but no clear energy efficient incentives or mandates. In addition, many Wisconsin cities have goals in overall energy conservation, but these efforts are not fully committed or enforced. Secondly, the International Energy Conservation Code, a building code for energy efficiency regulations during design and construction, has minimum regulations but only encourages efficient advances such as the installation of LED light bulbs. Due to not finding any RECO in WI specifically, the search was expanded out to the United States. Eight cities/counties were found that had some sort of residential energy conservation ordinance in place including Ann Arbor MI, Chico CA, Berkeley CA, Burlington VT, Montgomery County MD, Boulder CO, Austin TX, and San Francisco CA. The main cities that helped in proposing a RECO in Wisconsin are Chico CA, Berkeley CA, Burlington VT, and Montgomery County MD because they apply well to the area in terms of population, community, geography, and climate.

Berkeley, California

Berkeley, California is the first city found with a RECO that could be applied to the Oshkosh area because both Berkeley and Oshkosh emit roughly the same amount of greenhouse gas emissions from the residential building sector. Berkeley, CA is considered the gold standard because they were the first city in the United States to adopt a RECO in 1981, but Berkeley's strategy of energy improvement and renovations at the point of sale could easily be applied to Oshkosh. 90% of Berkeley homes were built before the presence of modern energy codes in 1978, so homes were drafty and wasted a tremendous amount of energy (City of Berkeley, 2017). Demand to increase energy conservation stemmed from an increased consciousness of energy limitations, due to the oil embargoes of the 1970's, and to help aid homeowners from the high energy prices. 7% of Berkeley's total annual community greenhouse gas emissions stemmed from electricity consumption in residential buildings, so Berkeley recognized this as an opportunity to reduce energy consumption and greenhouse gas emissions (City of Berkeley, 2017). Oshkosh emits relatively close to the same amount of GHG emissions as Berkeley. 18.6% of Oshkosh's greenhouse gas emissions comes from electricity consumption in residential buildings, so hopefully Oshkosh can see RECO as an opportunity for further reductions (ICLEI "5 Milestones", 2013).

The City of Berkeley faced a variety of challenges while implementing this initiative. The first challenge came from a lack of information on energy saving results because tracking is not within the budget of RECO's. Next, RECO does not affect unsold or unimproved properties. One last challenge came from having to spend money on measures and upgrades to constantly keep up with current codes. Berkeley's RECO includes a \$20 filing fee for renovation compliance, which falls on the responsible resident. The final costs for a single-family home is estimated to range between \$120 to \$2,500, but the final cost depends on fixtures, equipment and the condition of the dwelling. The final cost does include installation, auditing and filing. According to Berkeley's Office of Energy and Sustainable Development, RECO has effectively

affected approximately 500-700 housing units per year (0.25% of Berkeley's homes), with a grand total of over 10,000 residential units becoming more sustainable. (See Appendix A). The proposed RECO in Oshkosh uses Berkeley's terms of responsibility, required forms, spending limits, and costs.

Burlington, Vermont

The City of Burlington, Vermont was the second city that was investigated because they have a very similar climate and number of renters as Oshkosh. Burlington and Oshkosh have cold winters, warm summers, and according to the U.S. Climate Data, both cities have average annual temperatures only one degree apart (U.S. Climate Data, 2017). Burlington's population is about 42,000, which is roughly 20,000 people less than Oshkosh, but what makes these cities similar is that they both have many renters due to the fact that they both have colleges in the city (City Data). Burlington has an ordinance that is like the RECO called Time of Sale (TOS) and Minimum Energy Efficiency Standards Ordinance (See Appendix B & C). Time of Sale ordinance and the Minimum Energy Efficiency Standards Ordinance mandates cost-effective minimum energy efficiency standards when tenants are responsible for directly paying the heating costs and when the buildings are transferred or sold. The purpose of this ordinance is like a RECO because it works to improve insulation levels, reduce air infiltration, and other thermal performance issues in rental dwellings. The Time of Sale ordinance requires improvements on exterior walls, open attics/ceilings/roofs, electric water heaters, heating and cooling ducts, hot water piping, and windows and doors. Any increase in rent may result from such investment, but the cost is expected to be offset over time through reductions in energy bills.

An inspection report is required upon transfer of rental property or when doing new construction by an experienced mechanical engineer or licensed inspector. Once the inspection report shows that the dwelling's energy efficiency standards are met, the dwelling will become certificated. The costs of the inspection is \$100, which is paid by the seller (See Appendix B & C). The average final cost of the required renovations is typically \$650-750, which the seller and buyer negotiates who's paying for what and how much of each (See Appendix B & C). Burlington's requirement of needing an inspection report upon transfer of rental property or when doing new construction by an experienced mechanical engineer or licensed inspector could be implemented into this proposal. One thing that the City of Burlington did to help keep the price of required renovations down is the requirement of installation measures having a simple payback of 7 years or less. Simple payback is the cost of doing the measure divided by the calculated yearly energy savings. In addition, the final cost cannot exceed 3% of sale price or exceed \$1,300 per rental unit, or whichever is less (See Appendix B & C).

One challenge and limitation that Time of Sale ordinance has is that enforcement is only required when the buildings are sold, new renovations are being done, and when tenant pays for heating. Another challenge is if the minimum energy efficiency standards are not all met, the required improvements must be made within one year of transfer of the property. Another challenge is enforcing inspection reports because inspections reports are not required for inheritances, divorce settlements, foreclosures, bankruptcies, if dwelling was built after August 1, 1991, and when landlord pays for heating (See Appendix B & C). Furthermore, inspection reports are not required when the dwelling participates in Burlington's' BED'S (Burlington Electric Department) heat exchange program, home energy loan program, weatherization program, and weatherization Assistance Program. (See Appendix B & C). The introduction to

Time of Sale Ordinance was included because it breaks down ARTICLE VII. MINIMUM ENERGY EFFICIENCY STANDARDS ORDINANCE 18-500 since the introduction answers relevant questions and is easy to understand (See Appendix B & C).

Chico, California

Chico, California is large city located in Butte County, California, about an hour or two north of Sacramento. Chico was investigated because Chico and Oshkosh communities have a difference of only 10,000 households, both have a population density of about 2,500 people per square mile, and an average median household income of about \$42,000 (City Data). Chico's RECO was put in place in 1991 and then amended in 2010. The city's RECO requires property owners to provide specific energy and water conservation measures before the resale of residential properties and to decrease water and energy costs for residential homeowners and renters. Chico's RECO mandates that every home, condominium, or apartment building that was built before July 1991 must have specific energy and water efficiency measures before being sold (See appendix D). Examples of the specific measures include: high grade attic insulation, major cracks, joints, and other openings in building exteriors must be sealed, toilets and sinks must be fitted with low flow mechanisms ensuring only 2.75 gallons are used per minute, shower fixtures must be fitted with low flow shower heads for a flow rate of 3 gallons per minute, thermostats must be programmable, and all water heaters and external water lines must be covered with insulation. The building must then be inspected by a city certified energy conservation inspector and pass all the requirements. A challenge that comes from Chico's RECO are the exemptions. These exemptions limit the amount of homes being upgraded in certain cases or scenarios because specific people are exempt from following RECO's code and thus upgrading the dwelling. The exemptions include, factory, business or mobile homes, transfers as result of default to a bank, transforms from one co-owner to another, transfers to a spouse or claims as a result of a divorce, and sales or transfers to immediate family. (See Appendix D).

Montgomery County, Maryland

The next city that is important to look at is Montgomery County, Maryland. Montgomery County has an ordinance pertaining to an Energy Performance Audit for a single-family home which only takes place when a family decides to sell their home. Although there is not a mandatory audit involved in the ordinance, it is mandatory that the seller provides utility information to the buyer. According to the specific ordinance from Montgomery County, the seller must provide the utility history of the household for the previous 12 months of occupancy (see Appendix E). If the house was occupied for less than 12 months, the utility history also needs to be provided to the seller. The only exemption for providing utility usage is when the house was completely unoccupied for the previous 12 months (see Appendix E). This ordinance is a great asset for our proposal and for the City of Oshkosh as it is a way to provide more information to the buyer of a home, provide insight into how much utility usage to expect, and help highlight a possible desire of the buyer to make further improvements in efficiency upgrades to their home. Although Montgomery County may be the least important of benchmarking cities than what can be found above, Montgomery County ordinance may be beneficial in constructing a final Residential Energy Conservation Ordinance. The major

limitation with this ordinance, is that there is not a mandatory energy audit, in addition to providing usage history (see Appendix E).

Stakeholders

City Officials

Steven Wiley

Steven Wiley, Assistant Planner for the Sustainability Advisory Board, is knowledgeable on Oshkosh's existing sustainability goals. He was overall very supportive of the ordinance and liked how the ordinance is structured. He appreciated the spending limits requirements invested in upgrades after a mandatory home inspection. Wiley thought if upgrades were suggestion or done on a volunteer basis, the ordinance would be far less effective. He suggested highlighting the costs and benefits of a RECO which could be done by having estimated costs of specific upgrades and estimated savings that upgrade will bring. He also suggested emphasizing how this ordinance positively impacts diversity. For example, low income housing would be included because it is a way to provide equal and affordable opportunities for all members of Oshkosh. Finding ways to include all community members in city decisions is a consideration he has to make as a part of his job as a city official. Overall, his support demonstrated that a RECO is capable of achieving and exceeding city expectations in promoting conservation and reducing greenhouse gas emissions.

John Zarate

John Zarate, the chief building inspector for Oshkosh, was overall supportive but had a few concerns regarding the ordinance and how it would impact his job. A possible barrier he proposed is that the cost of the home inspection may not be entirely on the city. He explained that the inspections unit is involved in home renovations, so the ordinance would require the City of Oshkosh inspection unit to do the mandatory energy audit. However, when selling the home, it would no longer be the responsibility of the city to do the energy audit, it would either be the seller or buyer who would then need to hire a private inspector. Another concern he had was that the upfront cost of the home inspection is usually around \$300-400, therefore, this is another burden on selling a home which can make it even more difficult for real estate agents to close on a sale. However, he mentioned that incentive programs were available for low income households. His economic restraint concerns are important to consider as well as the possible increase in time working for energy auditors due to this ordinance. This may require the city to hire another inspector but the salary for the inspectors is less than the cost of performing the audit, therefore the city would make money on the audits, which is why Zarate was most likely not concerned with who was performing the audit. Although the responsibility for performing energy audits before the sale of a home would most likely be the responsibility of a private home inspector, there is a possibility that the city may see the benefit of taking on the entire responsibility as it will generate more revenue. One more area of concern from Zarate was that the ordinance is more restrictive than State Code, which right now is not allowed under current statutes. The allowance of establishing further City Codes from already established state codes would need to further be evaluated. Overall, Zarate acknowledged the importance of energy efficient homes and how it will be cost effective. His opinion is highly valued because he would be partially responsible for the regulation aspect of the ordinance.

Wisconsin Chapter of “Focus on Energy”

Paul Van de Sand

Paul Van de Sand is involved in the Wisconsin Chapter of Association of Energy Engineers and is also the Senior Program Leader with the Focus on Energy of Wisconsin. Focus on Energy is a Wisconsin utilities’ statewide program for energy efficiency and renewable energy and works with eligible Wisconsin residents and businesses to install cost-effective energy efficiency and renewable energy projects. Focus on Energy also helps clients with information, resources and financial incentives help to install projects that in some cases wouldn’t be completed. He showed support for a RECO but had a hard time believing it could be passed. His experience with home energy audits and working with businesses towards energy efficiency makes him expect that a RECO would receive pushback from realtors and homeowners unless there were financial incentives involved, which there are information on them in the proposed ordinance.

City Benchmarks

Rebecca Milliken

Rebecca Milliken is an employee from Berkeley's office of energy and sustainable development who works with sustainability projects and shows support for this ordinance because she has seen how it has worked in Berkeley (see Appendix A). She asserted that RECO is meant to update existing homes, combat greenhouse gas emissions, and decrease energy costs for homeowners. RECO also improves community health and indoor air quality. The measures proved to decrease costs of water, electric, and natural gas. Including both point of sale and substantial renovations made sense to maximize involvement in Berkeley. The city has even gone to the next step and modified RECO to require commercial building owners to comply. Milliken is supportive of RECO because she knows what it is capable of and what opportunities can come from it. Due to Berkeley having the gold standard of RECO, Milliken’s input may be helpful when implementing one in Oshkosh, so her complete email interview is located in Appendix A). If needed to get into further contact with her, her contact information is RMiliken@cityofberkeley.info.

Chris Burns

Chris Burns showed support because he helped create very successful similar ordinances in Burlington called Time of Sale (TOS) and Minimum Energy Efficiency Standards Ordinance. (see Appendix B & C). TOS is very similar to the RECO because they both deal with mandating cost-effective minimum energy efficiency standards in residential housing units. Burns interest level was high because he believes in advancing sustainability in cities and improving energy efficiency in the residential sector. Burns made a suggestion that helped ensure the ordinance passing in Burlington: including rental units. Going after big users of residential energy, such as rental units, provides the largest opportunity for energy conservation. Due to Oshkosh having a large number of rental units, Burns’s suggestion will help decrease Oshkosh greenhouse gas emissions.

Realtors

Jake Zielinski

Realtor from Milwaukee North Shore area, Jake Zielinski, showed overall support. Although he is not from the Oshkosh area, his opinion is valuable as perspectives from all areas of Wisconsin are relevant and his profession provides guidance. This effort would affect his job. He was interested in this proposal because it may affect the public's view on buying and selling their homes. He assumed the ordinance would be costly for residents. He could think this way because people do not want to spend any additional money, especially when they are required to do it. He has also had the experience of public pushback on governmental regulations, requiring money to be spent. He thought that the ordinance would be better if financial incentives were included as well, which we did include information on in the ordinance after his suggestion. He also felt that the buyers would be the ones doing the upgrades most of the time, but the seller would likely provide a discount on the selling price. He assumed this because many times with home inspections, if there is something required to fix or upgraded when the home is sold, most of the time the seller will give a credit on the home for the buyer to be able to afford meeting the home inspection and upgrade costs. Lastly, he assumed that people will have a hard time thinking in long term advantage which would create pushback. He has seen this with upgrading old appliances to new ones in general because of the initial cost. Jake Zielinski's perspectives could contribute to RECO because he could use it as a selling point. He could also use it to his advantage when deciding on credits, which aids the seller if they are unwilling to do the upgrades. His perspective of updating a neighborhood is a good point that can use in his profession. Updating outdated neighborhoods is a form of motivation for the city's implementation. Lastly, his input on how people have a hard time seeing the big picture will help emphasize focus on goals and positive outcomes in the short term.

Landlords

Cara Trucky

Cara Trucky is a landlord in Appleton who is supportive of the proposal. Although she is not from this area, Appleton has a very similar demographic and location as Oshkosh. Trucky is a relatively new landlord as she purchased her home last year. This may make her a less experienced consultant. She believed these upgrades would be beneficial to the landlord or owner. The money saved by doing these energy requirements would likely outweigh the money required to spend. She also noted these measures would be tax-deductible for the landlord. This positive feedback is important as a mixed response from landlords was expected. She did not expect the ordinance to affect home sales as the seller is probably required to fix a variety of things. She was very enthusiastic about water conservation measures as her husband is a plumber and the cost would be minimal for her personally. Like many landlords, she pays for the tenant's water bill so she is supportive of water conservation measures as it saves her money.

Kory Severson

Kory Severson has been a landlord for over 30 years in Butler, Wisconsin and takes interest in a RECO because she plans to do upgrades in the future which may impact how much money she will spend on them. Although she is not located in Oshkosh, her perspective is important because landlord perspectives of a RECO is what is aimed to be understood. Financial savings is what ultimately motivates her view as a landlord. She worried that the ordinance could

either help her save money or require more money invested into the property during upgrades. She was hesitant of being supportive of this proposal because she debates whether climate change is not an urgent problem to be addressed. She believed upgrades will cost her more money, and that energy efficient appliances are unnecessary. She assumed that RECO would cost her more money which would lead to her having to charge more rent to afford upgrades, making her a less competitive renter and affecting her income. This domino effect type of thinking has to do with fear of change and not thinking long term because she only sees the upfront higher cost of upgrades, not the long-term payback. Another assumption was the energy appliances are not as good of quality of everyday appliances which would cost her more money to fix them or things like more plumbing expenses.

Mike Zweiger

Mike Zweiger is a landlord from JP Michaels LLC and owns a handful of apartments around Wisconsin including a couple on the UW Oshkosh campus. Zweiger had mixed feelings on a RECO due to worries about the costs that fall on the homeowner (or landlord) and extra barriers it may cause in the selling process. He also was worried about how this policy might deter possible buyers. He thought if they have to go through this type of hassle buying property in Oshkosh then buyers would just buy property somewhere else. He did agree that it was a great idea in terms of bettering the community and making Oshkosh more sustainable. Most landlords are mostly concerned about making money. Their properties are usually not kept up the best as they know they can always find renters, especially on campus. Yet, Mike did show interested in how this policy would increase property value. With upgrading appliances and upgrading overall home value, Mike thinks there are some positives to this policy such as in another sense, making his properties more attractive to consumers. Overall, he had mixed feelings about the policy and really didn't lean one way or another.

Homeowners

Rick Miceli-Wink

Rick Miceli-Wink is a homeowner in DePere and showed support. He is not located in Oshkosh, but his perspective is valuable, so homeowners could be understood. He liked the concept as he sees having energy efficient dwellings are a win/win for everyone, both financially and as far as conserving resources. All of the requirements seem prudent to him. Given the large sums of money with a big renovation or a sale of a home, these costs seemed quite small in nature. He didn't see RECO affecting the sale of his home since they are all low-cost requirements. Miceli-Wink thought the improvements would make his home more attractive to a prospective buyer. When asked if he saw this ordinance affecting his motivation to do upgrades or sell, Miceli-Wink replied, "being compelled to do the right thing is often a greater good." He felt the spending limits were very reasonable. His home is roughly 1,500 square ft. so he would have to be \$750. His only concern pertained to the inspection and enforcement aspects of the ordinance: "who enforces the \$500 fine? And what is the cost to that agency by enforcing it?" Miceli-Wink believed that if this ordinance were to be implemented, more home would be more efficient and in a city like Oshkosh with so many older homes, this would be a good thing.

Charitee McKenna

Charitee McKenna is a homeowner who lives in Cecil, Wisconsin and overall did not show support. Although she is not located in Oshkosh, it is important to understand why a homeowner in general could be opposed to a RECO. As a seller, she wouldn't want to do an upgrade because she wouldn't personally be reaping the benefits. She also argued that this would cause them to have to lower their selling price for new homeowners to finance the upgrades. This concerned her that it may make their home less competitive because buyers may then want to buy a house that already has the upgrades.

Shelly Reinke

Shelly Reinke is a homeowner in Oshkosh who has mixed feelings on a RECO. She thought the ordinance was an interesting idea and could serve to reduce energy consumption over the long term. She felt that the spending limits seemed reasonable in her opinion; roughly \$1,000 for an average size home in Oshkosh. However, she expressed concern for low to moderate income families. She would like to see funding or tax incentives available for renovations. She worried that home sale prices would likely creep up with this ordinance in place. Although, some buyers may be more attracted to a house that is considered energy efficient. Meeting the requirements of the ordinance could be used as a marketing tool for sellers. She also expressed concern for owners not seeing the renovations as increasing property value (i.e. no immediate return on investment). She addressed a few potential challenges. There could be potential public resistance to regulations. Enforcement may be an issue. She also worried that with the volume of property bought and sold in Oshkosh, the inspection department may need to hire more staff to monitor compliance. Reinke addressed the need to implement this ordinance with a form of incentives for homeowners to make the modifications, rather than legislating it. Reinke thinks that if this policy were put in place, the public could be resistant but would eventually accept, just like any other regulation.

Renters

Thomas Sommers

Thomas Sommers is a low-income renter in Oshkosh, Wisconsin, near the UW Oshkosh campus who showed support. He is an Environmental Studies student, so he understands that greenhouse gas emissions are contributing to climate change and reducing them would be better for the environment. He mentioned that he moves from one rental unit to another each year so if he were to stay in the same house for a longer period of time, he would be able to see more financial benefits. He thought landlords could receive more benefits because they are creating nicer dwellings from the improvements they would be required to do. Thinking of personal long term of benefits shows support of the ordinance.

Bridging Differences

There are differences between the stakeholders that may be bridged by providing information on climate change and financial incentives. Providing information on climate change will aid people who may have a lack of understanding of climate change effects and how collective action, politically and individually, makes positive steps towards conservation and sustainability. Information could be shared through the community website by providing links to

good and reputable informational websites on climate change. Volunteer events could also be organized to hold an informational meeting on climate change with a question and answer section to further spread awareness to the community. The overarching issue with stakeholder concerns had to do with financials, so providing information on financial incentives would help bridge the differences by eliminating that concern (see Costs section). Information could be spread by providing information on the community website associated with RECO. It could also be spread through the realtors or inspectors providing incentive information to the buyers and sellers. They could come prepared to appointments by having websites with information on rebates, for example, or suggest companies to consider for lower income housing. Overall, stakeholders have concerns which can be bridged by providing information on climate change as well as financial incentive programs. These were the two areas of most concern with stakeholders which have easy fixes to allow most of the community the ability to participate in RECO.

Barriers

With any new laws or policies, it is expected that there will be barriers and pushback. People don't like to be told what to do or where and when to spend their money. The first general barrier is the lack of understanding of climate change. Surprisingly, there are still people who do not support the scientific data on climate change. This 'belief' may be due to improper education. The RECO policy is in place to help manage contributions that cause climate change such as greenhouse gas emissions. Non-renewable energy resources, greenhouse gas emissions, and inefficient appliances all waste energy. If people do not understand that these are a problem or correlation to climate change, then they will probably feel that the RECO is unnecessary.

The next barrier that could potentially be an issue is the lack of financial incentives for residents. In the whole scale, there are some incentives for lower income families through WE Energies and some state run programs. Financial help in paying for new furnaces, new in-home insulation, heating bills and new thermostats are all some examples that low-income families can use from WE Energies to make them more energy efficient when it comes to heating. Yet for the middle to upper class families really have no financial incentives for them to agree with the RECO. The RECO does not offer them any free upgrades or money to improve, instead it forces them to pay for the improvements. To some who don't see the benefits to RECO, this might seem useless and a waste of their money.

There is a lack of information on energy savings results to show the benefits. Because tracking the before and after energy use is not within the budget of most RECOs, most municipalities and residents don't see the positive results that RECOs maintain. Once again, the lack of information that is lost without the budgeted tracking people will not see the positives and therefore are less likely to approve of the RECO.

Another barrier could be pushback from the Realtor Association and Homeowners Association. After speaking with multiple landlords and people in the housing market, it was found out that difficulty selling is a concern among stakeholders. With homeowners and landlords eager to sell and move out from their properties, the last thing they are going to want to do is spend more money on improving a property that they will no longer be using. On the other hand, if the buyer takes responsibility for the RECO, they also will not be as eager to spend

“extra” money on improvements that they may not seem important or unfit. These improvements will only better their homes in the long run.

Significance for Sustainability

A residential energy conservation ordinance for the City of Oshkosh would revolutionize, not just the city, or state, but the entire Midwest. Nowhere else in this area has a RECO been adopted which provides Oshkosh an opportunity to be a leader and role model in conservation strategies.

Oshkosh has already taken steps to be a sustainability leader. For example, the Oshkosh Sustainability Plan from 2012 is setting sustainability goals in multiple different areas such as energy and water. For Oshkosh’s energy goals, they are trying to promote incentives and assistance for energy conservation projects, have wider use of sustainable home aspects such as ENERGY STAR appliances, increase methods that individuals can use to have the most sustainable energy use, and promote methods for measuring performance. For Oshkosh’s water goals, the city wants to promote incentives for water conservation improvements, update standards for water conserving plumbing fixtures, and ban non-essential water uses. These various types of saving can be put back into resident’s pockets all while creating a more sustainable community. Oshkosh also joined the Green Tier Communities along with other Wisconsin cities to commit to a more sustainable future for the next generations of residents in the communities.

The Oshkosh Sustainability Advisory Board recognizes that greenhouse gas emission from human activity are contributing to climate change. For this reason, there are goals in place to reduce greenhouse gas emissions and the city’s carbon footprint. One example of their attempts is when Oshkosh signed the US Mayors Climate Protection Agreement committing to reduce greenhouse gas emissions in line with the Kyoto Protocol’s target of a 7%. On top of this the city of Oshkosh committed to adopting the International Council for Local Environmental Initiatives five milestones to reduce greenhouse gas emissions which include goals set for 2025, 2035, and 2050 for reduction percentages (ICLEI “Milestone 2”, 2016). Energy consumption was the primary source of greenhouse gas emissions that those milestones wanted to address. According to the Oshkosh’s sustainability plan, the residential sector makes up roughly 19% of total greenhouse gas emissions (2012). Out of those residential emissions, 65% of those emissions were generated through the consumption of electricity (2012). It will be hard for the city to reach these milestones without some type of energy policy in place. That is where a RECO will be able to help in many sustainability aspects.

Sustainability is a journey, not a destination, meaning that sustainability is not an end, but a way of living. It takes a lot of effort many different people working together to reach the three pillars of sustainability. Oshkosh has not yet completed all five milestones to reduce greenhouse gas emissions (ICLEI “Milestone 2”, 2016). The city still needs to address the final three milestones: developing an action plan, implementing the climate action plan, and monitoring progress. As for the Sustainability Plan, many of the goals set have yet to be reached, including the goals in water and energy use (2012). For energy use, the city is working to promote incentives and assistance for energy conservation projects, to have a wider use of sustainable home aspects, and to promote methods so individuals can measure performance. For water, the city has yet to have an incentive program for water conservation improvements,

update standards for water conserving plumbing fixtures, and to ban non-essential water uses. With these achievements and unsatisfied goals, RECO will help lead Oshkosh to a more sustainable community by conserving water and energy use.

Economy

Using a three pillars of sustainability analysis, RECO will contribute to economic, environmental, and social aspects of sustainability. Economically, RECO can save the city and residents money in the long run. The intended benefits of the ordinance include trying to reduce homeowner and renter utility bills due to the upgrading of appliances and home energy audits. Any time more energy and water efficient appliances or features are installed, it may create higher costs up front. However, it will save the residents money in the end due to the savings in utility bills. For example, according to Sears Home Services, most major appliances are expected to last anywhere from 10 to 20 years, most upgrades are not done as often. Yet, according to ENERGY STAR by replacing a pre-1994 washer with a new Energy Saver model, the average family saves around \$110 per year on utility bills (“Home Advisor,” 2017). That is only in one aspect of representing such a portion of overall energy usage. This type of savings would benefit multiple different types of households, for example low income housing. The costs saving can be immense by adding upgrades to water heaters, insulation, thermostats, and other upgrades within the RECO. These improvements will not only save money for residents, but it will also increase the value of all homes in Oshkosh by having newer more valuable appliances. The increase in value will help the economy and set a standard for better and nicer homes in Oshkosh.

Society

Socially, RECO will be setting a standard and precedent for other cities and residents to become more sustainable by being energy efficient. Holding the city to a higher standard not only better the city, but also encourages others to follow their lead. Homes and apartments will all be upgraded with their appliances and be more efficient in energy use. This will create a higher quality of life for people of all demographics, whether its college students, middle class families or underprivileged homes. Again, this allows Oshkosh to be a pioneer in the mission of sustainability. RECO will increase the health for future generations by reducing the amount of particulate matter and greenhouse gas emissions in the air. As climate change and greenhouse gas emissions continue to rise, it also has increased the prevalence of air related illnesses. RECO will improve air quality and quality of living. RECO will also help benefit people of all demographics. It benefits those with low income housing such as students or the lower class because it makes monthly utility bills cheaper by reducing the amount of energy consumed. Socially, the RECO helps all people save money and become more environmentally friendly.

Environment

Environmentally, RECO will help meet the city of Oshkosh sustainability goals by reducing the city's carbon footprint. Climate change is one of the most pressing issues humans face today, so anything humans can do to slow down that process will only be beneficial. When it comes to water conservation, the RECO will help decrease water usage immensely. According to Stephenson and Halich (2009), a study was performed looking at different water conservation

methods to gain practical and efficient strategies to achieve better water conservation and less usage by residents. The study concluded that voluntary programs only had water reductions of 5-7% while mandatory ordinances to comply with water usage showed water reduction by more than 15%. This saving in water reduction will not only save money for residents but also the city.

The RECO will also reduce greenhouse gas emissions that are contributing to that problem of climate change. Yet, if business and growth go as usual, according to the East Central Wisconsin Regional Planning Commission (2015), emissions are projected to grow about 27% over the next ten years based on a 1% population growth. With upgrading appliances and making homes more energy efficient this will reduce the amount of natural resources and energy it takes to keep these homes running, this in turn will reduce the carbon footprint of the city. Tying the three pillars of sustainability together within Oshkosh's sustainability plan, it makes sense to include a residential energy conservation ordinance. RECO will work to improve Oshkosh's economy, society and environment while also advancing the sustainability goals.

Summary

Greenhouse gas emissions from the residential sector are contributing to climate change using energy and water. Climate change is one of the most pressing issues today and energy consumption from the residential housing sector is the primary source of greenhouse gas emissions in the community. Implementing a residential energy consumption ordinance (RECO) in the City of Oshkosh will aid with energy conservation projects, promote methods individuals can use to increase sustainable energy use, promote efficient methods of measuring performance, offer incentives for water conservation improvements, update standards for water conserving plumbing fixtures, discourage non-essential water uses and overall, increase sustainability in homes. These improvements would ensure that future homes would be up to date on appliances and features, provide better energy efficiency, create eco-friendly homes, lower energy and water costs, and increase air quality for the City of Oshkosh residents.

A Residential Energy Conservation Ordinance (RECO) mandates that every home or apartment building sold, transferred, undergoing renovations of \$50,000 or more must meet the set energy and water efficiency requirements. Currently, no cities or states in the Midwest have adopted a RECO, but implementing a RECO in Oshkosh will allow Oshkosh and state of Wisconsin to become a leader in adopting an ordinance that will significantly reduce greenhouse gas emissions and increase sustainability. Reaching out and connecting with the city of Berkeley California could be helpful for answering future questions and to find out more information about a RECO where contact information can be found in the Stakeholder section under Rebecca Milliken. Adopting a RECO will be a great opportunity to reduce Oshkosh's residential energy consumption and will ultimately make Oshkosh a more sustainable community.

Appendix

Appendix A

City of Berkeley Residential Energy Conservation Ordinance (RECO)
https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Energy_and_Sustainable_Development/compliance%20guide.pdf

The Residential Energy Conservation Ordinance (RECO) was adopted to improve the energy and water efficiency of existing housing in the City of Berkeley. RECO is meant to help insulate residents from energy price increases by reducing the amount of energy used for heat, hot water, lighting. The ordinance states that every home or apartment building sold or transferred in Berkeley or undergoing renovations valued at \$50,000 or more must meet energy or water efficiency requirements for the following items:

1. Toilets 1.6 gal./flush toilet, or flow reduction devices
2. Showerheads 3.0 gal./min. flow rate
3. Faucets 2.75 gal./min. flow rate for kitchen and bathrooms
4. Water Heaters Insulation wrap of R-12 value
5. Hot & Cold Water Piping Insulate first two feet from water heater to R-3 value
6. Hot Water Piping in Pumped, Recirculating Heating Systems Insulate all piping to R-3 value
7. Exterior Door Weather- Stripping Permanently affixed weather-stripping, and door sweeps or door shoes
8. Furnace Ductwork Seal duct joints, add insulation wrap to R-3 value
9. Fireplace Chimneys Dampers, doors, or closures
10. Ceiling Insulation Insulate to R-30 value
11. Common Area Lighting (multi-unit buildings only) Replace incandescent with compact fluorescent lamps (CFL) of at least 25 lumens per watt.

All homes sold or substantially renovated must demonstrate compliance with these requirements by being inspected and filing "Form A - Certificate of RECO Compliance" with the City of Berkeley. All other RECO forms are available at www.ci.berkeley.ca.us/Energy/RECO.html ;7007; , Studios, lofts and live-in spaces that are 1,500 square feet or less are considered residential housing, and must also comply with RECO. Spaces larger than 1,500 square feet are exempt from RECO, but must comply with the Commercial Energy Conservation Ordinance (CECO). Call 510-981-7500 for information, or visit www.ci.berkeley.ca.us/Sustainable/CECO.htm for compliance information.

Studios, lofts and live-in spaces that are 1,500 square feet or less are considered residential housing, and must also comply with RECO. Spaces larger than 1,500 square feet are exempt from RECO, but must comply with the Commercial Energy Conservation Ordinance (CECO).

Call 510-981-7500 for information, or visit www.ci.berkeley.ca.us/Sustainable/CECO.htm for compliance information.

If a home is being sold or substantially renovated and has not previously met all RECO requirements, it must be brought into compliance and inspected. Properties sold after 1991 may already be in compliance. To check whether your property has previously undergone a RECO inspection, contact the City of Berkeley Building and Safety Division at (510) 981-7440. Staff will tell you what RECO measures, if any, need to be completed on your building.

In the case of a sale of property, the responsibility for RECO compliance may be assumed by either the seller or the buyer of the home. If the seller assumes responsibility, RECO requirements must be met before close of escrow. If the buyer assumes responsibility, a RECO “Form A” must be filed with the City, and RECO requirements must be completed within one year of the date of sale. As noted above, the Seller cannot transfer compliance with RECO to the new buyer if the responsibility has already been transferred once to the seller from the previous sale.

If RECO requirements are not met, the sale can be stopped or a \$500 fine imposed on the buyer by the City.

Renovation: Any residential property that undergoes renovation with a total construction cost of \$50,000 or more must comply with the requirements of the RECO ordinance. In the case of renovation, RECO compliance is the responsibility of the applicant for the building permit (generally the property owner). RECO inspection and documentation for renovation work is done through the normal building inspection process.

RECO Spending Limits:

There is a limit to the amount of money that you are required to spend to meet RECO upgrades. You need not spend more than:

- 0.75% of the final property sales price when a single structure of two housing units or less is sold or transferred;
- 0.75% of the final property sales price for each structure when a property with more than one structure of two housing units or less is sold or transferred;
- \$0.50 per square foot when *anyone structure with three or more housing units is sold*; or
- 1% of renovation costs when a property is undergoing a renovation of \$50,000 or more.

If the expenditure limit is reached, and the property is sold again, the property must be brought into compliance by the next seller or buyer. The responsibility for RECO cannot be transferred more than once.

Scheduling a RECO Inspection

There are two different inspecting agencies for RECO, depending on whether you are transferring your building, or remodeling it.

1. For Sale or Transfer of Property:

Community Energy Services Corporation (CESC) a non-profit organization at (510) 981- 7762. A RECO Auditor will be available weekdays from 8:30 AM to 11:00 AM to schedule an appointment for you. You may also call this number 24-hours a day to leave a message requesting the RECO audit. Please leave your name, telephone number, and property address. You may also schedule an appointment on the internet. Visit www.ebenergy.org for forms, requirements, and other information.

2. For a Building Renovation

City of Berkeley Building and Safety Division: (510) 981-7440 weekdays 8:30 AM-5:00 PM. City building inspectors will incorporate the RECO inspection into the comprehensive building permit inspection process.

Inspections are generally performed within 1 to 2 days of your call, and can be performed Monday through Friday. Please call to schedule an appointment. Once your property meets RECO minimum standards, the City Building Inspector will complete a Form A, and give you a copy of it for your records.

Inspection and filling Costs:

The initial RECO inspection fee is *included* in the City's construction permit fees. There is no additional RECO fee or inspection required, outside of regular building inspection fees.

Service Provided	Building Type	First Unit per Structure Cost	Each Additional Unit Cost per Structure
Initial Inspection	Single Family Dwelling	\$100	NA
	Two or more units per structure	\$100	\$50
Re-Inspection	Single Family Dwelling	\$50	NA
	Two or more units per structure	\$50	\$25

For either renovations or property sales, if your building does not receive approval on the first inspection, you will have to rectify the non-complying items and schedule a re-inspection.

When the building has passed the RECO inspection, you will receive a "Form A - Certificate of RECO Compliance," from the Building Inspector.

RECO Form A: For Sales and Transfers must be filed at the cost of an additional \$20 with the City of Berkeley at:

City of Berkeley Building and Safety Division 2120 Milvia St. Berkeley, CA 94704

Cashier Hours: 8:00 AM –3:30 PM Mon—Tues., Thurs—Fri. 9:30 AM-3:30 PM

Wednesdays. Please make checks payable to City of Berkeley.

RECO Form B: Buyer/Seller Warranty and Agent Notification

Filing Fee: \$20

When to use Form B:

If a property has previously met RECO compliance (a Form A on record beginning Jan. 1, 1992), and still has all RECO measure in place (door weatherstripping, low-flow toilets, etc.) then the Seller may use Form B at the point of sale or transfer as a warranty that the building is currently RECO compliant. For any RECO measures that may have been removed, please note that these measures must be restored before the Buyer signs. There is no transfer of RECO measures once a property has met RECO compliance. All RECO measures must be maintained for all future sales.

Both buyers and Sellers should do their due diligence before signing, and ensure that all RECO measures are still in place.

RECO Form C: Transferring Responsibility for RECO Compliance to Buyer

Filing Fee: \$20

If a property is not in RECO compliance, and the responsibility for compliance has not been transferred previously, then the Seller may chose to transfer RECO compliance to the Buyer. If the Buyer accepts responsibility, then Form C must be signed by both Seller and Buyer, and must be filed with the City of Berkeley. Form C can only be used once on a property. For all subsequent sales or transfers, a Form B should be used once Form A has been completed, and all RECO measures are in place.

RECO Form D: Escrow Accounts for RECO

Filing Fee: \$20

When to use Form D: If a Seller is able to transfer RECO compliance to the Buyer, and RECO compliance has not already been transferred previously, then an Escrow account may be established with funds (0.75% of the final sale price) set aside for the Buyer to use toward RECO compliance, to be done within one year. If RECO funds are not depleted within one year, remaining funds revert to the Seller.

Interview with Rebecca Milliken, Berkeley Office of Energy and Sustainable Development

Rebecca Milliken is an employee from Berkeley's office of energy and sustainable development who works with sustainability projects and shows support for this ordinance because she has seen how it has worked in her hometown (Appendix A). Her support is shown through the following statistics. 90% of Berkeley homes were built prior to the first energy codes

in 1978. The majority of homes were drafty and wasted a tremendous amount of heating energy. RECO was developed to update existing homes with energy efficiency measures. Demand for RECO stemmed from increased consciousness of energy limitations, due to the oil embargoes of the 1970's, and the need to insulate homeowners from high energy costs. 7% of Berkeley's total annual community greenhouse gas emissions stemmed from electricity consumption in the residential sector. Berkeley recognized this as an opportunity to reduce energy consumption and greenhouse gas emissions. RECO has additional non-energy co-benefits: improving durability of housing stock by reducing opportunities for moisture damage, improved comfort by reducing drafts and balancing temperature, and improved health and indoor air quality. As the majority of homes in Oshkosh predate modern energy codes as well, this perspective will likely be helpful for local implementation. According to the Oshkosh Sustainability Board's Greenhouse Gas Emission Analysis, the residential sector made up roughly 19% of total greenhouse gas emissions in 2007. 65% of residential emissions were generated through the consumption of electricity. Hopefully, Oshkosh can see this as an opportunity to reduce emissions, as Berkeley did.

There were likely a great deal of challenges faced by the staff proposing the original ordinance. The current office staff members could not speak to those specific limitations as they were not employed during the initial passage of the ordinance in 1981. There is a lack of information on energy saving results because tracking the before and after energy use is not within the budget of RECOs. The office staff members relayed various challenges to the ordinance: seller improvements undone by buyer, doesn't affect unsold/unimproved properties, potential opposition from the real estate industry, enforcement, and effectiveness vs simplicity. These limitations will provide necessary consideration.

The office provided various specifications on the details of their ordinance. Specific RECO renovation measures were chosen because the targeted energy reductions resulted in significant water, electric, natural gas, and cost savings. These measures represented the low-hanging fruit, most of which could be completed by the homeowner. These prescriptive measures helped to reduce winter heat loss and summer heat gains, and saved Berkeley residents energy and money. The office also wanted to maximize the number of homes that were updated with RECO measures. As a result, they chose to include both point of sale and substantial renovations (50,000 or more). The office restricted the responsibility of compliance to only be transferred once so the responsibility was ensured to be met. The office determined three spending limits that the responsible resident would need to reach for compliance: 0.75% of sales price, \$0.50 per square foot, or 1% of renovation costs. This was to ensure the cost would not be too much for homeowners. RECO compliance costs for single family homes were estimated to range from \$120 to \$2,500, depending on fixtures, equipment and condition, including installation, audit and filing. For the department, the RECO program was intended to be fully cost-recovering through fees. Inspection and filing fees were set with City Council approval. These specific details of the ordinance will help guide Oshkosh.

RECO was administered through the Office of Energy and Sustainable Development. The Planning Department's Building and Safety Division tracked RECO compliance. In addition, the Building and Safety division did inspections for RECO when the work was triggered from renovations. The office also worked with Community Energy Services Corporation (CESC), a local nonprofit. CESC conducted RECO inspections when the work was triggered by sale or transfer. RECO also required coordination with realtors and title companies to ensure that it was included in point-of-sale documents. By delegating CESC to perform RECO inspections, and

ensuring that the agency has no opportunity for financial gains beyond the cost of inspection, Berkeley ensured compliance with RECO measures and protection of homeowners from sales pitches for unnecessary or unwanted equipment or additional services. This information provides Oshkosh with insight on the necessary collaboration of departments.

Although RECO and its sister ordinance, CECO (Commercial Energy Conservation Ordinance) played important roles in increasing efficiency and reducing Berkeley's greenhouse gas emissions, they became out of date with building science and lagged behind California energy code requirements. Updates were needed to encourage deeper savings consistent with the scale of effort necessary to achieve Berkeley's ambitious Climate Action Plan goals. RECO was a one-size-fits-all list of prescribed upgrades. Some of the measures were no longer consistent with current codes. Others were no longer considered appropriate. Berkeley switched the ordinance from RECO and CECO to the Building Energy Savings Ordinance (BESO) in 2015. BESO was developed as a more flexible energy efficiency solution. BESO requires commercial building owners and homeowners to complete and report energy assessments to uncover energy saving opportunities. Assessments provide tailored recommendations on how to save energy and link building owners to incentive programs. It didn't require a prescriptive set of measures, but rather a set of measures that would be unique to each building.

According to the Office of Sustainable Energy and Development, RECO was an economical program to administer. Staff time was the major expense associated with the ordinance. Over 10,000 residential units were estimated to have been affected by RECO. BESO is also seen as an effective ordinance from a cost-benefit standpoint. It also requires staff time to administer but is more user-friendly than RECO and will benefit from online compliance tracking in the near future. BESO responds to the rapidly changing energy standards and building science and will be more flexible as new technologies emerge. It also is designed to align with state and regional financing and rebate programs, making it cost-effective for homeowners to comply with. This ordinance switch points Oshkosh to RECO as a good starting point for the city. However, BESO can likely provide Oshkosh with helpful insight on the road ahead.

Appendix B

City of Burlington: ARTICLE VII. MINIMUM ENERGY EFFICIENCY STANDARDS ORDINANCE 18-500

<https://www.codepublishing.com/VT/Burlington/?Burlington18/Burlington1807.html?f>

This article shall be known as the "Minimum Rental Housing Energy Efficiency Standards Ordinance." (Ord. of 3-24-97) 18-501 Statement of findings and purpose.

(a) There exist in the City of Burlington numerous dwellings which are substandard due to the lack of adequate insulation and other thermal performance defects that cause the inefficient use of energy to heat the dwellings. Such substandard dwellings may compromise public health, safety and welfare.

(b) The efficient use of energy is essential to the economic security and well being of the people of the City of Burlington. Significant opportunities do exist to reduce energy consumption which will result in the lowering of housing costs, stimulation of the local economy and creation of local jobs. Buildings which require improvements to meet these minimum energy efficiency standards may require investments by buyers or sellers. This article is designed to allow property owners to pass on the cost of energy improvements to tenants through increases in rents and any increase in rent that may result from such investment is expected to be offset over time by reductions in energy bills.

(c) The purpose of this article is to promote the wise and efficient use of energy through cost effective minimum energy efficiency standards for rental dwellings where physically possible. (Ord. of 3-24-97)

18-502 Applicability.

(a) This article shall be applicable to all rental properties subject to the Minimum Housing Code. In mixed commercial/residential buildings this article shall apply only to the residential portion of the building. This article shall not apply to owner-occupied portions of a multi-unit building.

(b) The following properties shall be exempt from meeting the requirements of this article:

- (1) Rental properties not rented between November 1 and March 31 of each year.
- (2) New construction subject to and in compliance with the Energy Conservation Ordinance, B.C.O. sections 8-100 to 8-104
- (3) Hotels, motels, tourist rooming houses, dormitories, hospitals, hospices and nursing homes.
- (4) Buildings or apartments where heating costs are paid by owners of the rental properties. (Ord. of 3-24-97)

18-503 Certificate of minimum energy efficiency standards compliance required.

(a) Transfer of property and inspection reports. Upon transfer of rental property where there is a deed recorded, an inspection report, signed by a Vermont-licensed mechanical engineer or an inspector certified by the program administrator, must be filed with the city clerk when the deed is recorded in the land records. The inspection report shall either include a certificate of energy efficiency compliance, if the standards of this article are met, or list the standards not met and

inform the property owner that the recruited energy improvements must be made within one year of the date of transfer. An inspection report and certificate shall not be required for the following transfers:

- (1) Transfer of property for no or nominal consideration, including inheritance;
 - (2) Transfer of property as part of a divorce settlement;
 - (3) Involuntary transfers of property including foreclosures, bankruptcies, condemnations and tax sales.
- (b) Extension stipulation. An extension stipulation to extend the time for the filing of a certificate for a period of time not to exceed two (2) years may be granted by the program administrator where the cost of making energy improvements needs to be spread over more time due to financing constraints.
- (c) Cost effectiveness limitation. Notwithstanding the above, no property owner shall be required to make any specific energy improvement where the cost of making the improvement is greater than seven times the calculated first year savings in energy costs attributable to the improvement. All such calculations must be verified by a Vermont licensed mechanical engineer or an inspector certified by the program administrator.
- (d) Total cost cap. The total cost of energy improvements required under this article shall not exceed three
- (3) percent of the sale price of the property listed on the property transfer tax return or one thousand three hundred dollars (\$1,300.00) per rental unit, whichever is less.
- (e) Exception. Notwithstanding the above, no property owners shall be required to make any specific energy improvement when the specific energy improvement would compromise building integrity or otherwise adversely affect the health or safety of the building occupants. Such a determination shall be made by the program administrator and the city engineer.
- (f) Waiver:
- (1) The program administrator shall grant a waiver for rental properties to be demolished or converted to a nonresidential use within one year of the date of transfer.
 - (2) The program administrator shall grant a waiver to the owner of a rental property that cannot obtain financing for energy improvements required under this article. In order to secure such a waiver, the owner must document and prove that good faith efforts to obtain financing have been unsuccessful, including following up on assistance from the program administrator.
- (g) Forms. All forms necessary for administration of the program shall be provided by the program administrator. (Ord. of 3-24-97)

18-504 Inspection and certification of rental properties.

(a) Inspectors:

- (1) Energy inspections required pursuant to this article must be conducted by Vermont-licensed mechanical engineers or inspectors certified by the program administrator and the city engineer. Fees for such inspections shall not be regulated by the program administrator.
- (2) The program administrator shall promulgate rules and standards for certification and

decertification of inspectors, provide periodic training and administer testing to qualify prospective inspectors.

(b) Certification of rental properties:

(1) The inspector shall complete an inspection report on a form provided by the program administrator which shall indicate compliance or noncompliance with the minimum energy efficiency standards of this article. The original inspection report shall be given to the property owner, with a copy to the program administrator.

(2) If the minimum energy efficiency standards are not all met, the inspection report shall list the standards not met and inform the property owner that the required energy improvements must be made within one year of transfer of the property

(3) When all the minimum energy efficiency standards are met, the inspector shall prepare and sign a certificate of energy efficiency compliance and provide the original to the property owner, with a copy to the program administrator. The program administrator shall file a copy of the certificate with the city clerk. (Ord. of 3-24-97)

18-505 Administration of energy efficiency ordinance.

The general manager of the Burlington Electric Department shall be the program administrator for the Minimum Rental Housing Energy Efficiency Standards Ordinance. The program administrator may take such measures as are necessary for the proper administration of this article. The program administrator may delegate his/her powers and duties under this article to an appropriate administrator within the department. The program administrator may charge an administrative fee of fifteen dollars (\$15.00) per building payable at the time of recording a deed transferring a rental property except in situations where no inspection report is required. (Ord. of 3-24-97)

18-506 Appeal.

A party aggrieved by an action of an inspector or the program administrator may request a hearing before the housing board of review pursuant to division 2, article II of this chapter by writing the program administrator within sixty (60) days from the action from which relief is sought. The request shall specify the grounds for the appeal and the relief which is requested. The program administrator shall notify the chair of the housing board of review of the receipt of the notice of appeal forthwith. (Ord. of 3-24-97)

18-507 Enforcement and penalties.

Any violation of this article shall be subject to civil penalties as set forth in section 1-9(b). Prior to filing a municipal complaint, the program administrator shall send a notice of violation to the property owner. Each day's failure to comply with the minimum energy efficiency standards as required by this article shall constitute a separate offense. The general manager of the Burlington Electric Department and designated administrators within the department are authorized to issue a municipal complaint for a violation of this article. (Ord. of 3-24-97)

18-508 Minimum energy efficiency standards.

(a) Definitions. For the purposes of this section, the following terms, phrases, words and their derivations shall have the meanings given herein:

- (1) A "heated space" means any living space within the exterior boundaries defining the building into which heat is intentionally introduced during the heating season.
- (2) "Attic" means the volume, if any, between the roof and the ceiling over the interior finished space nearest the roof.
- (3) "Box sills" shall be defined as the cavity created by the floor joists resting on the foundation, and the outer band joist.
- (4) "Roof" means the surface on the top of a building which separates the building from the outdoors.
- (5) "Exterior walls" means all walls separating the heated space of the building from the outdoors, or from spaces typically having temperatures during the heating season which approximate outdoor temperatures.

(b) Standards. These minimum energy efficiency standards shall apply where physically possible and cost effective as provided in section 18-503(c) and section 18-503(d).

(1) Insulation of exterior walls.

All exterior walls with an existing overall effective insulation value of less than R-11 and enclosing an empty cavity of over two (2) inches in depth shall have insulation added to achieve an R-11 overall effective insulation value. In cases where there is insufficient space to add insulation to the R-11 level, as much insulation shall be added as will fit.

(2) Insulation of open attics/ceilings/roofs:

- a. If existing insulation in open attics (an attic which is unfloored) provides less than an average effective value of R-15, insulation shall be added to bring the average effective insulation value to an R-40 level. In cases where there is insufficient space to add insulation to the R-40 level, as much insulation shall be added as will fit.
- b. The space under the flooring of an unheated floored attic shall be filled with insulation, not to exceed R-40 (see subsection (1) above).
- c. Horizontal attic access panels shall be insulated to an R-20 level.
- d. Vertical attic access panels shall be insulated to an R-10 level.
- e. "Sloped roof cavities" (including "cathedral" ceilings) and knee walls shall be treated as exterior walls (see subsection (1) above).

(3) Insulation of other areas:

- a. Box sills shall be insulated on either the inside or the outside of the band joist to an overall effective R-10 level.
- b. Floors over basements, crawl spaces, outdoor spaces or spaces typically approximating outdoor temperatures during the heating season, shall be insulated to an overall effective R-19 level unless:
 1. They are already insulated to an overall effective R-11 level or greater, in which case no additional insulation is required;
 2. The basement contains equipment used for space heating, in which case no insulation is required;

3. The floor assembly encloses a space, in which case the floor shall be treated as an exterior wall (see section (1) above); or

4. The basement or crawl space is not vented to the outdoors, in which case an alternative method of compliance is to insulate the perimeter of the foundation above grade, and at least two (2) feet below grade, to an overall effective R-10 level.

c. Electric water heaters shall be insulated to an R-10 level.

(4) Heating/cooling ducts and piping and domestic hot water piping:

a. All accessible space heating/cooling ducts in basements or crawl spaces with insulated ceilings, or in attics, shall be insulated to an overall effective R-10 level if less than an effective R-5 level currently exists. Ducts in unheated attics shall have any visible leaks sealed with proper duct mastic prior to insulation.

b. All accessible space heating/cooling piping in basements or crawl spaces with insulated ceilings, or in attics, shall be insulated to an overall effective R-4 level if less than an effective R-2 level currently exists.

c. All accessible domestic hot water piping which is part of a pumped circulating loop in basements or crawl spaces with insulated ceilings, or in attics, shall be insulated to an overall effective R-4 level if less than an effective R-2 level currently exists.

d. All accessible domestic water piping (both hot and cold) within nine (9) feet of the domestic hot water tank shall be insulated to an overall effective R-4 level if less than an effective R-2 level currently exists.

e. Operation of the heating or cooling air distribution system shall not induce a pressure differential of more than two (2) pascals between the conditioned space and the outdoors, as measured after any other energy improvements are completed.

(5) Windows and doors:

a. All windows in exterior walls shall be double-glazed or provided with storm windows during the heating season.

b. All operable windows in exterior walls shall have functioning latches which close windows tightly.

c. All doors and access hatches opening to the outdoors, or to spaces which typically approximate outdoor temperatures during the heating season, shall have functioning weatherstripping and latches which close doors tightly.

(6) Air leakage. All residential buildings shall have:

a. A leakage rate no greater than one thousand five hundred (1,500) cubic feet per minute at a pressure differential of fifty (50) pascals as tested with calibrated pressurization (or depressurization) air flow measurement equipment; or

b. A projected natural air leakage rate which is no greater than six-tenths (.6) average annual air changes per hour as calculated by accepted professional practice approved by the program administrator. Application of this standard shall not require more than that large gaps and holes be sealed to achieve a reasonable airtightness level.

(7) Combustion appliances and equipment:

- a.** All combustion appliances and equipment shall have been tested for operational safety within twelve (12) months, before or after the title transfer date. All health and safety deficiencies identified during such tests shall have been corrected.
- b.** All components of a heating system including any pumps, motors, and controls shall be in good operating condition.
- c.** The heating system shall be adequate to heat all living spaces as required and defined by the City of Burlington's minimum housing code. (Ord. of 3-24-97)

18-509 Implementation.

The effective date of the requirements under this article shall be six (6) months after city council passage of the ordinance. Provided, that this article shall not become effective unless the program administrator certifies that there are financing sources available for energy improvements recruited under this article. (Ord. of 3-24-97)

18-510 Report.

Reports on the impact of the ordinance shall be prepared by the program administrator six (6) months and twenty-four (24) months after implementation of the ordinance. The report shall be presented to the board of electric light commissioners, the public works commission and the city council. (Ord. of 3-24-97)

18-511 Phase-in.

- (a)** The requirements of this article shall be phased in with the requirements initially applicable only in the Enterprise Community as designated by the U.S. Department of Housing and Urban Development. A phase in approach will provide an opportunity to study the impact of the article. The initial applicability will be in the Enterprise Community as that is the area of greatest need with the largest concentration of low income tenants and where heating costs are the most burdensome on tenants.
- (b)** The applicability of the requirements of this article shall be expanded to the rest of the city one month after the city council receives the twenty-four-month report. During the intervening month, the city council may do nothing, repeal, halt or postpone expansion or consider amendment of this article. (Ord. of 3-24-97)

The Burlington Code of Ordinances is current through Ordinance 8-7-17, passed August 7, 2017.

Disclaimer: The City Clerk's Office has the official version of the Burlington Code of Ordinances. Users should contact the City Clerk's Office for ordinances passed subsequent to the ordinance cited above.

Appendix C

Introduction to City of Burlington's Time of Sale ordinance (TOS)

<https://www.burlingtonelectric.com/time-sale-energy-efficiency-ordinance>

Q. What is the Time of Sale Energy Ordinance?

A. The comfort and energy efficiency of many rental units in the City of Burlington can be improved by increasing insulation levels, reducing air infiltration and addressing other thermal performance issues. The purpose of TOS is to promote the wise and efficient use of energy in rental dwellings by mandating cost-effective minimum energy efficiency standards enforced when buildings are sold. Technical assistance and incentive packages may be available to help property owners meet these requirements.

Q. Does the Ordinance apply to all residential rental properties?

A. No. The ordinance only applies to apartments where the tenants are responsible for directly paying the heating costs.

Q. Do I have to do everything in the Ordinance?

A. No. There are cost caps in place. The total cost of the required improvements must not exceed 3% of the sale price as listed on the property transfer tax return or \$1,300 per rental unit whichever is less.

After this, the Ordinance only mandates the installation of measures that have a simple payback of seven years or less. Simple payback is the cost of doing the measure divided by the calculated yearly energy savings. For example, the Ordinance does not require additional insulation of an attic with R-15 insulation (about 4.5 inches of cellulose) because the simple payback would be well above seven years in most cases at current fuel costs.

Q. What kind of work must be done to the building?

A. See below:

Exterior walls: If a wall is uninsulated, the empty space must be filled with insulation.

Typically, cellulose insulation is blown into the walls. If there were less than a 2-inch space available, insulation would not be cost-effective and, therefore, is not required.

Open attics//ceilings//roofs: If the insulation level of an open attic floor is less than R-15, it must be increased to R-40. If the attic has floorboards and is uninsulated, the empty space must be filled. Sloped roof cavities and knee-walls must be treated the same as exterior walls. Horizontal attic hatches must be insulated to R-20 and vertical hatches to R-10.

Installation off other areas: Box sills (where the building sits on the foundation) must be insulated on either the inside or the outside to a minimum effective R-10 level (about 3.5 inches of fiberglass or 2 inches of foam). Floors over unheated basements, crawl spaces or outside spaces must be insulated to a minimum effective R-19 level unless R-11 already exists (unheated refers to spaces that approximate outdoor temperatures). If the floor assembly is enclosed, it will be treated the same as an exterior wall. If the area is unvented, an acceptable option is to insulate

the perimeter of the foundation above grade and at least 2 feet below grade, to a minimum effective R-10 level.

Electric water heaters: Need to be insulated to a minimum R-10 level. BED will provide water heater blankets and pipe insulation for the first 3' of the hot and cold water pipes. Accessible heating and cooling ducts and hot water piping: Ducts in basements and crawl spaces with insulated ceilings and ducts in attics must be insulated to R-10 unless they are already insulated to a minimum of R-5. Before insulating, any visible leaks in the ducts must be sealed with proper duct mastic. Duct tape is not acceptable. Heating system piping in basements and crawl spaces with insulated ceilings, or in attics must be insulated to R-4 unless already insulated with to at least R-2. Domestic hot water piping, both hot and cold, within 9 feet of the tank must be insulated to R-4 unless already insulated to at least R-2.

Windows and doors: All windows shall be multiple-glazed or provided with storm windows during the heating season and must be equipped with effective latches. All doors and access hatches opening to the outdoors or to unheated spaces (such as attics and knee walls) must have functional weather-stripping and effective latches.

General air leakage: Large gaps and holes that allow heated air to easily escape or cold air to easily enter the building must be effectively sealed. Typically, these gaps and holes are found in attics and around foundations. Usually, the certified energy inspector will use a blower door air leakage tester to locate and measure these types of air leaks.

Strongly recommended but not required Heating and hot water appliances and equipment: All heating appliances and equipment should be professionally inspected for operational safety within 12 months of title transfer. All related health, safety and performance issues should be corrected. The heating system(s) must heat all living spaces as required and defined by the City of Burlington's minimum housing code.

Q. How much is the work expected to cost?

A. The average cost is estimated to be about \$650–750 per apartment. The actual cost will vary greatly depending on the existing condition of the building.

Q. Who pays for any required work?

A. This is negotiated by the seller and the buyer. However, once the sale is final then the buyer becomes responsible for TSEEO compliance.

Q. Who pays for the energy inspection of the building?

A. Typically, the seller pays the inspection and administrative fees but the parties can negotiate this. Certified energy inspectors through BED provide the inspections. Depending on the size and condition of the building, the costs are approximately \$100 per unit. An inspection may not be required if a building has participated in BED's Heat Exchange program, the Vermont Gas weatherization program, the Low-Income Weatherization Assistance Program, the Home Energy Loan Program or if it was built after August 1, 1991 when Burlington's energy efficiency construction code was enacted.

Q. Are there any other costs beyond the inspection and the actual work?

A. Yes. There will be a \$30 administration fee for each building.

Q. Is there anything else I need to know?

A. Yes. This informational sheet serves as a simplified overview and introduction to the Ordinance. The official Ordinance document contains full details including compliance, applicability, definitions, waivers, stipulations, appeals and enforcement and penalties.

Appendix D

City of Chico Residential Energy Conservation Ordinance (RECO)

http://www.chico.ca.us/building_development_services/building_services/documents/RECOInfoFlyer.pdf

CITY OF CHICO ENERGY CONSERVATION RETROFIT REQUIREMENTS

Chico Municipal Code Chapter 16.60

In 1991 and then amended in 2010, the City of Chico enacted a Residential Energy Conservation Ordinance (RECO) requiring property owners to provide certain energy and water conservation measures upon the resale of residential properties. The intent is to lessen the impacts of rising energy and water costs on renters and homeowners. The specifics of the ordinance can be found in Chapter 16.60 of the Chico Municipal Code (CMC). The CMC states that every home or apartment building built prior to 1991 must have the following energy/water efficiency measures, listed in order of priority, before being sold or transferred:

1. All accessible attic space with 30" or greater headroom must be insulated to a minimum thermal resistance rating of R-30.
2. All major cracks, joints, and other openings in building exteriors must be caulked, weather stripped, or otherwise sealed to limit air infiltration.
3. All sink and lavatory faucets must be fitted with low flow faucets with a maximum flow rate of 2.75 gallons per minute or an aerator.
4. All shower fixtures must be fitted with in-line shower restrictors or low flow shower heads which a maximum water flow rate of 3-gallons per minute, except where:
 - a. The shower head has an existing flow rate of less than three gallons per minute as a result of reduced water pressure;
 - b. The shower head and shower arm area of a ball joint type which is connected within a wall.
5. Unless determined unfeasible, all toilets must be low flow toilets rated at 1.6 gallons per flush or less.
6. Thermostats must be programmable, where feasible.
7. All exposed cold water lines connected to and within five-feet of existing water heaters, and all hot water lines from water heaters in unconditioned spaces are to be insulated at a minimum thermal resistance rating of R-3.
8. All domestic water heaters must be fitted with external insulation blankets with a minimum rating of R-6, except where:
 - a. The interior thermal resistance rating of the water heater is at least R-12; or
 - b. It is impractical to wrap the water heater with an external blanket.
 - c. The manufacturer's instructions for the water heater preclude the water heater from being fitted with an external blanket.
9. All ducts in accessible areas shall be visually inspected to determine if they are intact and functioning properly.
 1. The sale, exchange, or transfer of residential housing which was constructed on or after July 1, 1991;

2. Any residential building for which proof of compliance has been properly recorded within 10 years from the sale or transfer;
3. Factory-built housing, manufactured or mobile homes;
4. Sales or transfers pursuant to a court order, such as:
 - a. Transfers ordered by a probate court or in the course of administration of a trust or conservatorship;
 - b. Judicial foreclosures or other transfers by a trustee in bankruptcy;
5. Transfers as a result of default to bank;
6. Transfers from one co-owner to one or more co-owners;
7. Transfers to a spouse or certain relatives;
8. Transfers between spouses as a result of divorce;
9. Short sales, defined as sales in which the purchase price paid by the buyer of the property is less than the amount of the debt secured by the property. Because the cost savings can be immediate, it is advantageous for property owners to comply with the requirements now even if they do not intend to sell their property in the near future. Most of the work can be conducted by the homeowner at their leisure. The CMC does limit the maximum amount you may have to spend to comply with the ordinance.
 1. Minimum R-30 ceiling insulation must be installed regardless of cost.
 2. If the cost of required insulation is under \$800, additional measures are required until \$800 is reached.
 3. If the cost of required insulation is \$800 or more, then no additional measures are required.
 4. For multi-family residences with two or more units, the cost limitation above is \$560 per unit. Property owners may receive credit toward the maximum expenditure for measures installed within 42 months prior to the sale. The Building Official may grant credit for other conservation measures not listed above that were installed within 10 years prior to the sale.

EXEMPTIONS: COST LIMITATIONS: July 2014

1. Check To See if an Inspection is Required. If the residential dwelling being sold or transferred was built prior to July 1, 1991 and has not received a RECO energy conservation inspection within the last 10 years, it must be inspected again. To find out if your property previously received a RECO compliance certificate, check the City of Chico's website, www.ci.chico.ca.us, Building Division Home Page.
2. Schedule an Inspection. If a compliance certificate is not on file and an inspection is required, the property owner has to obtain a RECO inspection from a City Certified Energy Conservation Inspector. A current list of City Certified Energy Conservation Inspectors is posted on the City of Chico's website, www.ci.chico.ca.us, Building Division Home Page. A RECO inspection can be combined with a regular private home inspection if already being conducted at the request of the buyer or seller. The RECO part of the inspection must be completed by a City Certified Energy Conservation Inspector. The fees for private inspections are not set by the City.

- 3. Complete the Work Needed for Compliance and Submit the Inspection Form to the City.**
 - a.** If additional measures are needed, owners may choose to perform the work themselves and greatly reduce the costs of compliance, or they may hire someone to perform the work.
 - b.** If the property is not in compliance, the seller may transfer the responsibility to the buyer if mutually agreed by both parties. A city-approved form must be signed by the buyer, and submitted to the Building Division. Buyers will have 180 days to complete the RECO measures after sale/transfer. Once the work is completed, or if no additional work is required, the inspector must certify compliance by completing and signing a City-supplied conservation inspection form. The signed inspection form must be submitted to: City of Chico, Building Division PO Box 3420 Chico, CA 95927 411 Main Street, 2nd floor Fax: 530-895-4726 After receiving an inspection form, the City Building Official will review the form and determine whether the property is in compliance with RECO. Once approved, a Certificate of Compliance will be issued to the property owner or the owner's representative. The City will keep the certificate on file for 10 years. A violation of the RECO provisions in CMC Chapter 16.60 is an infraction and may be punishable by a fine. Any owner, transferee, or occupant, aggrieved by a determination made or action taken by the Building Official pursuant to CMC Chapter 16.60 may apply for an administrative review of such determination or action by the Community Development Department Director. Applications for administrative review shall be made in writing and submitted to the Director within 15 days from the determination or action. Owners, transferees or occupants may also appeal the decision made by the Director to the Chico City Council as provided by CMC 16.60.

Appendix E

Montgomery County Code

http://www.montgomerycountymd.gov/OCP/Resources/Files/Energy/40_13b.pdf

Sec. 40-13B. Energy performance audits-single family homes.

(a) Definitions. In this Section, the following words have the meanings indicated:

"Department" means the Department of Environmental Protection.

"Director" means the Director of the Department or the Director's designee.

"Home energy audit" means an evaluation of the energy efficiency of a home which includes any test or diagnostic measurement which the Department finds necessary to:

(1) ensure that a home's energy efficiency is accurately measured; or

(2) identify steps that can be taken to improve a home's energy efficiency.

"Single-family home" means a single-family detached or attached residential building.

"Sustainability Working Group" means the Group defined in Section 18A-13.

(b) Before signing a contract for the sale of a single-family home, the seller must provide the buyer with:

(1) material approved by the Department that gives information about home energy efficiency improvements, including the benefit of conducting a home energy audit; and

(2) copies of the electric, gas, and home heating oil bills or cost and usage history for the single-family home for the immediate prior 12 months, unless the single-family home was unoccupied for the entire prior 12 months. If the seller did not occupy the single family home for the entire prior 12 months, the seller must provide the buyer with the required information for that part of the prior 12 months, if any, that the seller occupied the single-family home.

(c) The Sustainability Working Group must evaluate options to encourage homeowners to conduct a home energy audit, including whether the County should require a home energy audit to be conducted before the sale of a single-family home. (2008 L.M.C., ch. 8, § 1.)

Editor's note-2008 L.M.C., ch. 8, § 2, states: Applicability. Section 40-13B, as added by Section 1 of this Act, applies to any sales contract signed on or after January 1, 2009.

Appendix F

City of Oshkosh Residential Energy Conservation Ordinance Draft

RESIDENTIAL ENERGY CONSERVATION ORDINANCE

Prepared by the University of Wisconsin Oshkosh

Environmental Studies Capstone Students

Title 1 – Chapter 1

Residential Energy Conservation Ordinance

1-1-1	Title of Code
1-1-2	Definitions
1-1-3	Purpose of Ordinance
1-1-4	Inspection
1-1-5	Spending Limits
1-1-6	Documentation
1-1-7	Responsibility
1-1-8	Exemptions
1-1-9	Incentives
1-1-10	General Penalty
1-1-11	Clerk to Maintain Proof of Energy Efficiency Upgrades

Sec. 1-1-1 Title of Code

These collected Ordinances shall be known and referred to as the “Code of Ordinances, Town of Oshkosh, Winnebago County, Wisconsin.” References to the Code of Ordinances, Town of Oshkosh, Wisconsin, shall be cited as follows: “Sec. 2-1-1, Code of Ordinances, Town of Oshkosh, Wisconsin.”

Sec. 1-1-2 Definitions

The following rules or meanings shall be applied in the construction and interpretation of Ordinances codified in this Code of Ordinances unless such application would be clearly inconsistent with the plain meaning or intent of the Ordinances:

- 2.1 City.
- 2.2 Carbon Footprint.
- 2.3 Green Tier Community.
- 2.4 Definition.

- 2.5 Definition.
- 2.6 Definition.
- 2.7 Definition.

Sec. 1-1-3 Purpose of Ordinance

3.1 The purpose of this ordinance is to establish certain requirements for energy efficiency upgrades of residential housing within the City, to reduce energy and water usage and decrease the carbon footprint of the City. This ordinance will increase the City's dedication to becoming a Green Tier Community. Reducing energy and water consumption will decrease City spending on providing those related services.

Sec. 1-1-4 Inspections

4.1 Every home or apartment building, within the City, being sold or transferred or undergoing renovations valued at \$50,000 or more, must meet energy or water efficiency requirements. The proposal pertains to all homeowners within the City, including landlords. Studios, lofts and live-in-spaces that are 1,500 square feet or less are considered residential housing, and must also comply with the ordinance.

4.2 All homes sold or substantially renovated must demonstrate compliance with energy or water efficiency upgraded renovations by having a mandatory energy audit performed on the home, meeting the required spending limits, and filing proper documentation. All responsibility falls upon the current homeowner before the sale of a home or substantial renovations.

4.3 All energy audits must be performed by a professional who is certified by The Residential Energy Services Network (RESNET) and has completed the ENERGY STAR Version 3 Rater Training through an Accredited Training Provider.

4.4 Any residential building undergoing a renovation of \$50,000 or more must hire the City's Inspections Unit to supply permits and provide the mandatory energy audit for the home.

Sec. 1-1-5 Spending Limits

5.1 There is a limit to the amount of money the homeowner is required to spend on energy efficiency upgrades after an audit has been performed in order to comply with the ordinance. The spending limits are as followed:

- a) 0.75% of the final property sales price when a single structure of two housing units or less is sold or transferred
 - b) 0.75% of the final property sales price for each structure when a property with more than one structure of two housing units or less is sold or transferred
 - c) \$0.50 per square foot when anyone structure with three or more housing units is sold
 - d) 1% of renovation costs when a property is undergoing a renovation of \$50,000 or more
- 5.2 If the spending limit is reached and the property is sold again, the property must be brought into compliance by the next seller or buyer

Sec. 1-1-6 Documentation

6.1 Proof of energy efficiency upgrades through meeting required spending limits must be filed to the City. Documentation forms must be submitted before the sale of the home. A \$20 filing fee for the documents must be included

Sec. 1-1-7 Responsibility

7.1 In regards to the sale of a home, the responsibility for compliance and inspection fees may be assumed by either the seller or the buyer of the home

7.2 If the buyer assumes responsibility, documentation must be filed with the city, and requirements must be completed within one year of the date of sale

7.3 If the seller assumes responsibility, requirements must be met before the close of escrow. If requirements are not met, sale can be stopped or \$500 fine is imposed on the buyer

7.4 The responsibility for RECO upgrades cannot be transferred to another party more than once

7.5 In terms of renovation compliance, the responsibility falls on the applicant for the building permit, generally the property owner

Sec. 1-1-8 Exemptions

8.1 The following is a list of all exemptions pertaining to the Residential Energy Conservation Ordinance:

- a) The sale, exchange, or transfer of residential housing which was constructed on or after July 1, 1991
- b) Factory-built housing, manufactured or mobile homes
- c) Sales or transfers pursuant to a court order, such as:
 - 1. Transfers ordered by a probate court or in the course of administration of a trust or conservatorship
 - 2. Judicial foreclosures or other transfers by a trustee in bankruptcy
- d) Transfers as a result of default to bank
- e) Transfers from one co-owner to one or more co-owners
- f) Transfers to a spouse or relative
- g) Transfers between spouses as a result of divorce
- h) Studios, lofts and live-in spaces that are larger than 1,500 square feet are exempt from RECO
- i) Homes on the list of the National Register of Historic Places in Winnebago county

Sec. 1-1-9 Incentives

9.1 Focus on Energy who is partnered with WE Energy provides incentives and rebates for qualified residents depending on household size and the combination of the annual upper income of the household. Further incentives can be found on their website. The following incentive categories through these incentive programs are as follows:

- a) Whole Home Improvements ranging from \$850 to \$2,250

- b) Heating and Cooling Improvements ranging from \$75 to \$875
- c) Renewable Energy ranging from \$650 to \$200

9.2 The Wisconsin Energy Assistance Program provides assistance for heating costs, electric costs, an energy crisis situations. Further information on this program can be found on their website.

Sec. 1-1-10 General Penalty

10.1 If compliance with the Residential Energy Conservation Ordinance is not met, a fine of \$500 or more will be issued from the City. Any person who does not obtain the mandatory energy audit, meet the required spending limits, nor submitting the filing fee will consequently be fined.

Sec. 1-1-11 Clerk to Maintain Proof of Energy Efficiency Upgrades

11.1 The City clerk is responsible for providing proper documentation and is responsible for keeping the documentation of the energy efficiency upgrades on file.

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