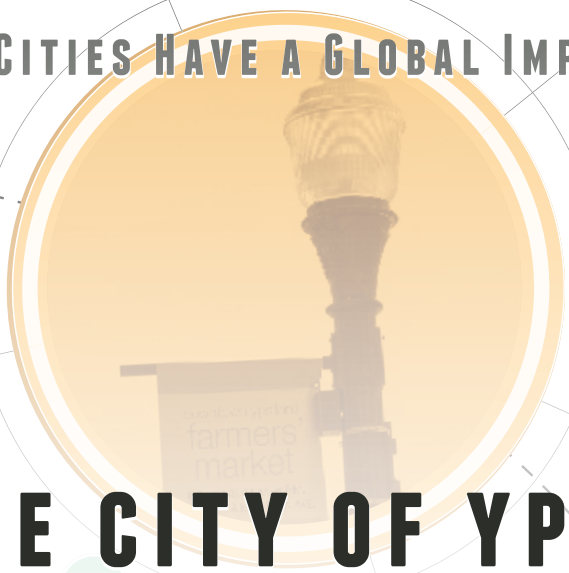
HELPING SMALL CITIES HAVE A GLOBAL IMPACT



THE CITY OF YPSILANTI
CLIMATE ACTION PLAN

JULY 2012

ACKNOWLEDGMENTS

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THE CITY OF YPSILANTI
CLIMATE ACTION PLAN

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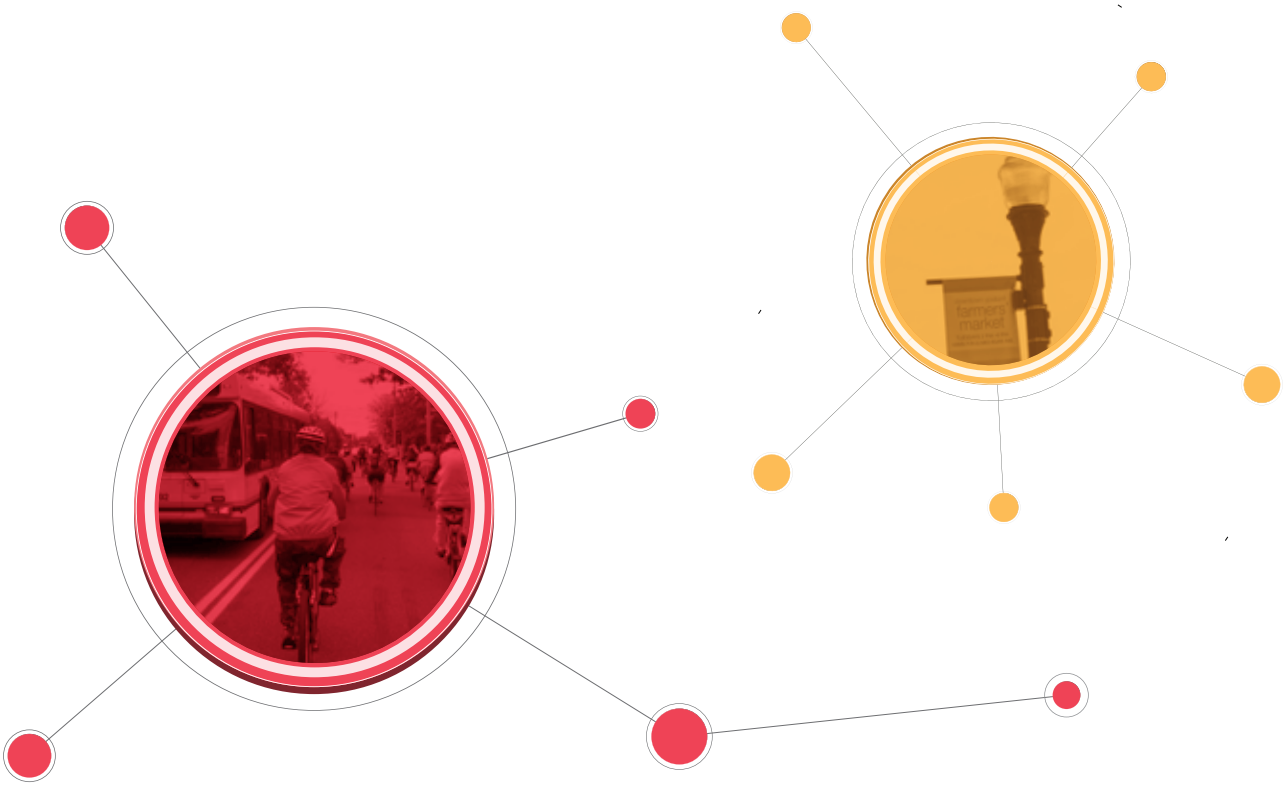
WHAT THIS PLAN CONTAINS

This report outlines a plan to guide Ypsilanti into a more sustainable future by coordinating municipal and community efforts to reduce greenhouse gas emissions and address climate change. The plan begins with an outline of the methodology used to create this plan and reviews community conditions, both from an emissions and qualitative standpoint. Next, the report delves into the strategies themselves and depicts the recommended tactics the city can use to reduce its greenhouse gas emissions. The strategies have been sorted into climate action areas: buildings, infrastructure, land use and transportation, and culture change. Additionally, the strategies have been given "tags" that indicate the nature of each idea, ranging from "municipal" to "behavior change." These tags allow the user to further sort strategies by interest and acknowledge the interdisciplinary nature of each idea.

After presenting and explaining the proposed strategies, the report addresses implementation. Taking into account existing city and community efforts, the report proposes a course of action to achieve the stated goals. This plan recommends where the city can act by making direct investments, taking steps through its staff and administration, creating new policies to drive change, and coordinating with the region as a whole. The plan also recognizes that some efforts may need to be led by the community, whether through specific individuals, groups or institutions, or by the creation of an official taskforce or coalition.

Finally, more detailed information on GHG emissions and community-driven strategy ideas can be found in the two appendices. Appendix A contains the full technical assessment of municipal and community greenhouse gas emissions. Appendix B is a list of all strategy ideas collected during best practices research, exploration of related efforts and community outreach. This library of approaches has been included to encourage consideration and implementation by the community or future municipal efforts.



KEY OF STRATEGY TAGS

BEAUTIFICATION
COMMUNITY BUILDING
EDUCATION
ECONOMIC DEVELOPMENT
ENERGY EFFICIENCY
LIGHTING
NON-MOTORIZED
WASTE

COMMERCIAL
INDUSTRIAL
EMU
INSTITUTIONAL
PARTNERS
MUNICIPAL
RESIDENTIAL

BUILDINGS
INFRASTRUCTURE
LAND USE
TRANSPORTATION
WELL-BEING

BEHAVIOR CHANGE
CAPITAL INVESTMENT
INCENTIVES
POLICY

KEY OF STRATEGY TAGS

A CLIMATE ACTION PLAN FOR YPSILANTI

Metropolitan Detroit, as Michigan's largest metro area, is both the state's greatest challenge to sustainability and holds the most promise for the future. The region holds an abundance of human capital, energy and other resources for development but is also rooted in a history of sprawl, inadequate transportation options and aging infrastructure. To move toward a better, more sustainable future, we must draw on both a desire to change as well as local resources in order to confront these substantial barriers to reform. The City of Duluth lays out the environmental challenge to city development in its own climate plan: "International scientific and political communities recognize that elevated temperatures, loss of habitat and species, and economic hardships due to damage from severe weather patterns and changes in natural resources are just some of the substantial changes we may experience in the coming years if action is not taken to reverse current [emissions] trends."[1]

As a built-out and de-industrializing community, Ypsilanti struggles to meet the challenge of reducing greenhouse gas emissions. While the city's historic core predates the automotive era, the land use and transportation decisions of the last half century have been planned around the automobile. This left the city with significant greenhouse gas "legacy costs."

In 2011, the City of Ypsilanti joined the Millennial Mayors Congress, a collaborative body of veteran and emerging civic leaders who focus on developing replicable models for local action that will produce a more prosperous, environmentally sustainable and equitable Detroit region. Each of the 22 participating communities is represented by a city official and a Millennial, or 18-35 year-old, resident. In December 2009, the Congress adopted the Energy Savings Protocol, setting a goal of reducing government uses of energy from non-renewable sources to 25% below 2005 levels by 2015. Now they are working together to implement localized approaches to this regional goal.

The Cities of Southgate, Hazel Park and Ypsilanti seek to go beyond this 2015 energy goal, however, and have stepped up to lead the region in local sustainability efforts. Together, the communities and their partners seek to assess strategies for community engagement, devise plans for reductions in municipal GHG emissions, and develop and test strategies targeting community-wide emissions due to limited transportation options, inefficient buildings, and dependence on fossil fuels. All three cities seek to develop and test components of a climate action plan that will result in a measurable reduction of Green House Gas (GHG) emissions from both city government and community activities.

1 | Skoog, Carin. "Greenhouse Gas Inventory & Forecast Report: With Recommendations for the Development of Duluth's Local Action Plan." City of Duluth. October 2001. Web, 12 June 2012. <http://www.natcapsolutions.org/ClimateManual/Cities/Chapter3/Duluth_baseline_14vii06.pdf>

WHAT IS CLIMATE ACTION PLANNING?

Climate change is by definition global and cannot be addressed by one community acting alone. Many mitigation efforts, however, can only be implemented at the local level, and community-scale strategies must be developed.

The local communities where we live and work present many opportunities to reduce greenhouse gas emissions, simultaneously addressing climate change and providing direct local benefits. While small cities may not be able to match national examples like Chicago for big flashy efforts, they have the ability to tailor efforts to local concerns and be just as impactful.

From an individual home to the citywide street network, local action can help slow climate change while also saving money, improving quality of life, and supporting new business and employment opportunities.

WHY YPSILANTI? WHY NOW?

Ypsilanti has already established itself as a leader in energy conservation and related issues, with the community taking a lead on sustainability. The Ypsilanti Climate Action Plan is a way to aggregate many of these efforts, support them through the City in the form of a formalized process, and collectively move forward toward City and community goals related to climate change.

Municipal efforts in the past few years have included a number of significant energy-related projects, and have been effective in an opportunistic, incremental approach: incorporating energy efficiency measures into already-planned projects, or leveraging outside funding opportunities to undertake projects that reduce greenhouse gas emissions and bring other benefits.

Examples of these projects include:

- Recent renovations to the city's Senior Center and Parkridge Community Center included energy-saving measures like insulation, more efficient windows and boiler upgrades, in addition to improvements for structural maintenance and better ADA access.
- City Hall features a 2.5 kW photovoltaic array installed in 2010 with the help of the Solar Ypsi initiative. During this project, the Historic District Commission also developed explicit guidelines for appropriate installation of solar panels on historic properties, streamlining future installations.
- A 2011 streetscaping project on West Cross used LED fixtures in the new streetlights, a choice expected to save the city over $3,500 a year in energy and maintenance costs.
- Currently, the city is establishing a municipal tree nursery to provide for shade tree planting along public streets and in parks at a fraction of the cost of purchasing mature trees. This work is funded by a Great Lakes Restoration Initiative grant and includes a workforce training component.
- Ypsilanti has leveraged Congestion Mitigation and Air Quality grants for several recent projects, ranging from the construction of a segment of the "Border to Border" bike/walk trail to the replacement of the city's aging street sweeper with a lower emissions model.

Looking more broadly, Ypsilanti is home to a number of citizen groups and nonprofits interested in climate-related issues. Whether around bicycling, gardening, farmers markets, renewable energy or general sustainability, the community's tradition of vibrant civic engagement provides both momentum and opportunity for new, coordinated efforts.

Finally, Eastern Michigan University, which occupies a quarter of the city's total land area and accounts for roughly 40% of the city's total daytime population,[2] has incorporated energy efficiency measures into its recent capital projects: the renovation and expansion of the Mark Jefferson Science Complex alone included energy-related improvements that will save an estimated $400,000 in annual operating costs and eliminate more than 3,000 metric tons of carbon dioxide equivalent (mtCO2e) in annual greenhouse gas emissions. The University has also taken steps to support transit commutes and encourage staff to live locally.

Through the sum of these efforts, Ypsilanti is already actively, though not always explicitly, pursuing climate change mitigation. The community lacks specific priorities. While the opportunistic approach has worked well in a number of cases, a strategic look at various options will help the city more strategically select projects—an important consideration in a time of extremely limited funds and staff time.

2 | Based on commute data and estimates from EMU staff, Ypsilanti's daytime population is around 25,000. With around 5,000 students commuting into town for school and 5,000 students already residing in the city, EMU represents roughly 40% of the daytime population.

A REGIONAL PARTNERSHIP FOR LOCAL AND GLOBAL IMPACT

This project is a collaborative effort made possible by a grant awarded to the City of Ypsilanti by the Michigan Department of Environmental Quality in August 2010. In partnership with the Michigan Suburbs Alliance, the Cities of Ypsilanti, Hazel Park and Southgate each received $50,000 to develop a model process for small-city climate action planning. From 2010 to 2012, with leadership from the Michigan Suburbs Alliance, Ypsilanti has developed a basis for climate action planning that takes into account the city's limited resources and builds upon the tight-knit nature of the local community to effect change.

The participating cities set three goals for the local climate action planning process. First, test and model greenhouse gas emissions reduction strategies for small cities in metro Detroit. Second, engage a broad and diverse citizenry in reducing our collective carbon footprint. And third, develop a local climate action plan that addresses issues like transportation, buildings, renewable energy and government operations. This process will develop a model process and plan for other small Michigan cities to follow, a library of best-practice strategies to reduce greenhouse gas emissions and a city-specific climate action plan for each community to be adopted by city council.

A successful city climate action plan must be defined and supported by local residents and businesses. Citizens must feel empowered and included in the city's planning activities. Local development of the Ypsilanti Climate Action Plan was rooted in broad civic engagement and supported by planning professionals at the city, the Michigan Suburbs Alliance and WARM Training Center. Ypsilanti convened a dedicated group of local stakeholders throughout the process who participated in community forums to identify how the city can reduce the impact of climate change in their community. In large part, this report is their work.

OUR METHODOLOGY

GREENHOUSE GAS DATA COLLECTION

Developing realistic, implementable strategies to mitigate the impacts of climate change requires a proven methodology to analyze Ypsilanti's greenhouse gas emissions. An inventory of GHG emissions establishes a baseline for both the government and community sectors, which is then used to develop strategies for targeted sectors and measure future emissions reductions resulting from the implementation of those strategies.

The tools and resources developed by ICLEI Local Governments for Sustainability guided our determination of sources and provided quantification methodologies. Since 1990, ICLEI has been assisting cities in their efforts to limit their environmental impacts by providing analytical tools and methods to help local governments and communities measure and reduce their greenhouse gas emissions.[3] Preparation of this plan also drew on the experience of the Southeast Michigan Regional Energy Office, an intergovernmental organization that works with municipalities and other civic partners to support efficiency work, renewables and other energy-related projects in southeast Michigan. Ypsilanti is a member city of the Regional Energy Office.

The following concepts are used throughout this plan, and are explained here to orient non-experts to these technical issues and to ensure that those with background knowledge share an understanding with this plan. More technical detail can also be found in Appendix A.

- Greenhouse gas (GHG) emissions: The vast majority of scientists agree: an unprecedented increase in greenhouse gases, driven by human activity, is causing our climate to change. Greenhouse gases like carbon dioxide, methane, nitrous oxide and fluorinated gases are emitted in the course of daily activity, when we drive our cars, turn on lights and even when you exhale. GHG emissions can be either direct or indirect—a toaster indirectly emits, while the power plant that provides the electricity for that toaster directly emits. The EPA's website contains a wealth of information for those interested in learning more. [4]
- Metric tons of carbon dioxide equivalent (mtC02e): This unit is a generally accepted standard used to measure GHG emissions, combining all of the different greenhouse gases, weighted by their impact, into a single measure. This plan uses it throughout the discussion of various strategies to measure and compare their impact. One mtCO2e is equivalent to the emissions produced by consuming 112 gallons of gasoline.
- Return on Investment (ROI): Return on investment defines the rate at which energy savings resulting from efficiency improvements will recoup the initial cost of the project. For example, a project that costs $5,000 to implement and saves $1,000 worth of energy annually has a 20% ROI, or a 5 year payback.

ORGANIZATIONAL BOUNDARIES

In the absence of any US-based standard for assessing GHG emissions, the methods used for the evaluation of community emissions are outlined in the International Local Government Greenhouse Gas Emissions Analysis Protocol. The methods used for the evaluation of governmental emissions are outlined in the Local Government Operations Protocol (LGOP), which was developed through a partnership between the California Air Resources Board, California Climate Action Registry, and ICLEI.[5]

COMMUNITY

ICLEI's International Local Government GHG Emissions Analysis Protocol indicates that any community-scale emissions inventory must include all emissions associated with any activity occurring within the geopolitical boundaries pertaining to the jurisdiction of the local government. The rationale for this edict is that local governments have a greater degree of influence over activities occurring within their jurisdictions, as opposed to activities occurring outside of their jurisdiction.[6] The actual emission sources, as in the case of electrical power plants, may occur outside of the geopolitical boundaries but be driven by activities within the community.

3 | Local Government Operations Protocol." The Climate Registry. ARB, CCAR, ICLEI, The Climate Registry, May 2010. Web. 23 May 2012. <http://www.theclimateregistry.org/downloads/2010/05/2010-05-06-LGO-1.1.pdf>.

4 | Start at: http://www.epa.gov/climatechange/science/causes.html

5 | Ibid.

6 | International Local Government Greenhouse Gas (GHG) Emissions Analysis Protocol, ICLEI, p. 11, http://www.iclei.org/index.php?id=ghgprotocol

GOVERNMENT

The Local Government Operations Protocol indicates that the preferred method quantifies GHG emissions only from sources over which a local government has operational control. A local government has operational control if it has the full authority to introduce and implement operating policies. According to this Protocol, "one or more of the following conditions establishes operational control:

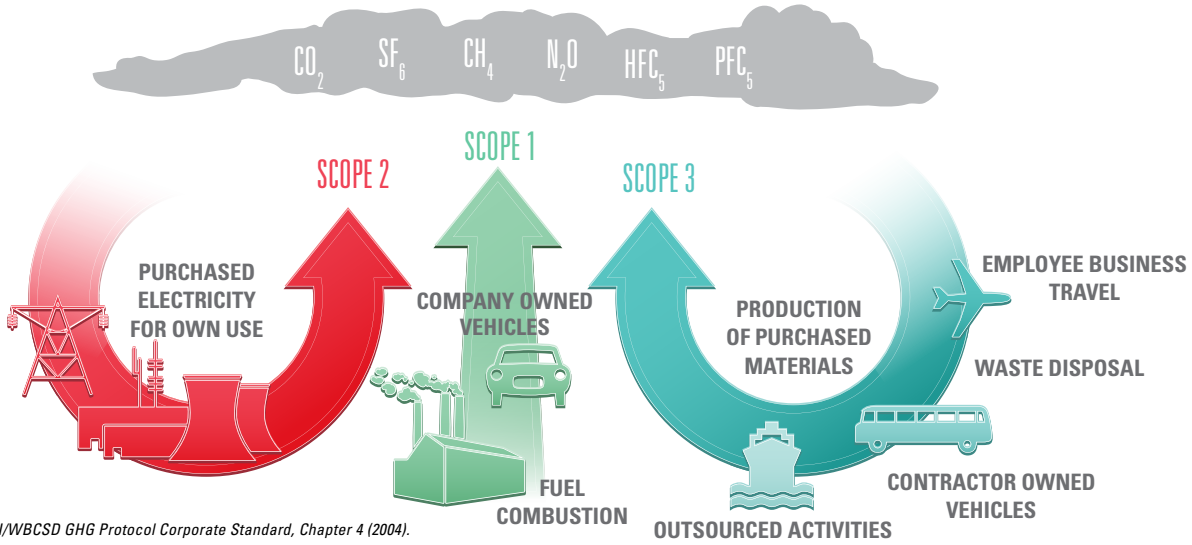
- Wholly owning an operation, facility, or source;

  or

- Having the full authority to introduce and implement operational and health, safety and environmental policies (including both GHG- and non-GHG- related policies)."[7]

Under this approach, the local government is responsible for all emissions that are emitted in any facility where the government has operational control. However, it is important to note that though a municipality may have full operational control over a facility, control of capital investments or other major changes may be shared. Under LGOP, however, this does not change the responsible party.[8]

IDENTIFYING GHG OPERATIONAL BOUNDARIES



Source: WRI/WBCSD GHG Protocol Corporate Standard, Chapter 4 (2004).

DEFINING SCOPE

Greenhouse gases are emitted in the course of daily activity. To account for both direct and indirect emissions, improve transparency, and provide information for different types of climate policies and goals, this report follows the World Resources Institute/World Business Council for Sustainable Development (WRI/WBCSD) GHG Protocol Corporate Standard in categorizing direct and indirect emissions into "scopes" as follows:

SCOPE 1: All direct GHG emissions, with the exception of direct CO2 emissions from biogenic sources, such as decaying food waste.

SCOPE 2: Indirect GHG emissions associated with the consumption of purchased or acquired electricity, steam, heating, or cooling.

SCOPE 3: All other indirect emissions not covered in Scope 2, such as emissions resulting from the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity (e.g., employee commuting and business travel), outsourced activities, waste disposal, etc.[9]

7 | "Local Government Operations Protocol." The Climate Registry. ARB, CCAR, ICLEI, The Climate Registry, May 2010. Web. 23 May 2012. <http://www.theclimateregistry.org/downloads/2010/05/2010-05-06-LGO-1.1.pdf>.

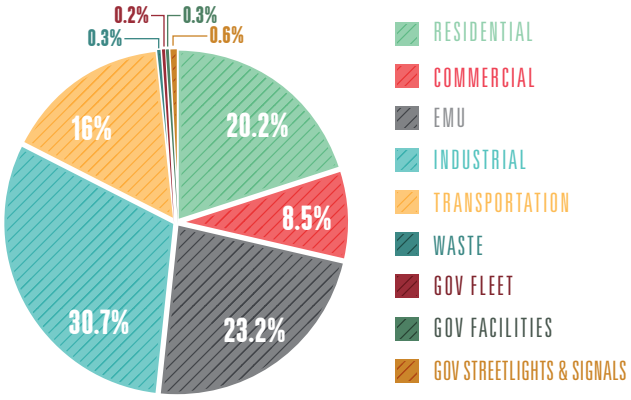
8 | Ibid. *9 | "The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard." Revised ed. World Business Council for Sustainable Development and World Resources Institute, n.d. 25-32. Web. 23 May 2012. <http://www.ghgprotocol.org/files/ghgp/public/ghg-protocol-revised.pdf>.*

YPSILANTI'S BASELINE EMISSIONS & EXISTING CONDITIONS

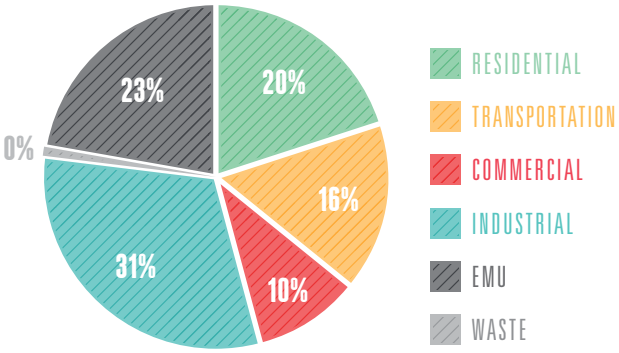
GREENHOUSE GAS DATA COLLECTION

Over 15 months, the City of Ypsilanti and its consultants, Michigan Suburbs Alliance and WARM Training Center, collected available energy usage data with concentrated collection efforts across four main sectors: Buildings (commercial, industrial, residential and government), Culture Change (events, celebration and education), Infrastructure (water, waste and energy generation), and Land Use and Transportation (development patterns, travel options). Data was collected primarily from city departments (energy bills, fleet fuel usage, gas bills, etc), DTE Energy, Southeast Michigan Council of Governments and the U.S. Census. Combined, these four sectors provide an accurate summary of Ypsilanti's total community and municipal emission usage profile and existing conditions. These GHG emission baselines, analyzed by sector, provide a path to align community emission reductions goals with realistic strategies and resident desire to positively impact existing conditions, thereby reducing the city's impact on climate change.

TOTAL GHG EMISSIONS, COMMUNITY+GOVERNMENT
[TONS CO2e]



COMMUNITY GHG EMISSIONS, 2008
[TONS CO2e]



COMMUNITY & GOVERNMENT EMISSIONS

The Ypsilanti community contributed 302,710 metric tons of GHG emissions (CO2e) into the atmosphere in 2005/2008, equivalent to 15.0 metric tons per capita for the city.[10] On average, national emissions per capita in 2000 were 24.5 metric tons CO2 equivalent (CO2e) for comparison.[11]

The Ypsilanti city government contributed 3,387 metric tons of emissions, about 1.1% of the total emissions. Municipal emissions are typically a small percentage of the overall community emissions profile. Local government has a number of levers from which to change not only its own behavior, but also that of its citizens. Local governments have control over the processes, technologies, and procedures that result in municipal emissions. A dedicated focus on these emissions can be a productive source for emissions reductions.

10 | Transportation and waste data are from 2005. All other sectors are from 2008.

11 | Baumert, Kevin A., Timothy Herzog, and Jonathan Pershing. Navigating the Numbers: Greenhouse Gas Data and International Climate Policy. N.p.: World Resources Institute, 2005. 22. Web. 23 May 2012. <http://pdf.wri.org/navigating_numbers_chapter4.pdf>.

COMMUNITY SECTOR EMISSION USAGE

The commercial sector in Ypsilanti was the greatest contributor to GHG emissions, with 9.5% of the total emissions plus 23% additional commercial from Eastern Michigan University (EMU). Industrial followed close behind at 31%. Residential was third, with 20% of the total emissions. Transportation emitted 16% of total emissions. Emissions from community waste, a Scope 3 source, made up 0.3% of the overall emissions profile.

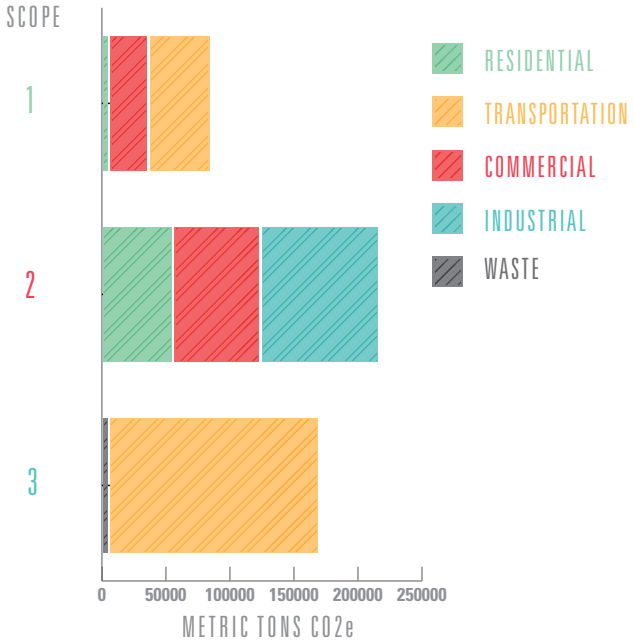
The large contributions of the industrial and commercial sectors are attributed to two factors. First, Eastern Michigan University, a significant part of the Ypsilanti community, was a large commercial emitter, producing 70,228 metric tons of CO2 equivalent emissions in 2008. EMU's emissions were considered additive to the existing community emissions. Unclear data scope is another methodological issue that could have led to the large contribution of industrial and commercial to overall community emissions. See the Electricity/Natural Gas methodology section in Appendix A for an in-depth explanation.

EMISSIONS BY SCOPE AND SECTOR

Examining emissions by scope is an important component of any GHG assessment, as scopes help prioritize investments to reduce impacts. Scope 1 and 2 emissions are the most directly impacted by local action and thus most inventories only include scope 1 and 2 emissions in their totals. Scope 3 emissions are those emissions either partly or wholly outside of the geographic bounds of the city.

For Ypsilanti, Scope 2 emissions are more than double Scope 1 emissions. Scope 3 emissions are attributed to sources outside of the city and, in Ypsilanti's case, include emissions from the miles travelled for all trips beginning or ending with the city (including those miles travelled outside of the city) and the fugitive emissions (largely methane) from garbage produced by city residents and businesses and sent to the Woodland Meadows landfill, operated by Waste Management.

2008 COMMUNITY GHG EMISSIONS BY SECTOR BY SCOPE



OVERALL YPSILANTI EMISSIONS REDUCTION GOALS

From the baseline greenhouse gas emissions level of 302,710 metric tons CO2-equivalent, the target reduction amount selected was 50% by 2050, or approximately 12.5% (37,838 mtCO2e) per decade. This percentage is based on a review of climate planning efforts around the country and a consideration of feasibility: many of these used targets of 80%-100% emissions reductions by 2050, but based on the more limited powers of a smaller city on issues like regional land use or travel patterns, this number was considered unrealistic for Ypsilanti's plan.

In addition, the City of Ypsilanti should formally commit to the Millennial Mayors Congress 2009 Energy Savings Protocol by passing a resolution of support through the local City Council. This would add an additional energy savings goal of reducing municipal energy use from non-renewable sources to 25% below 2005 levels within 5 years time.[12]

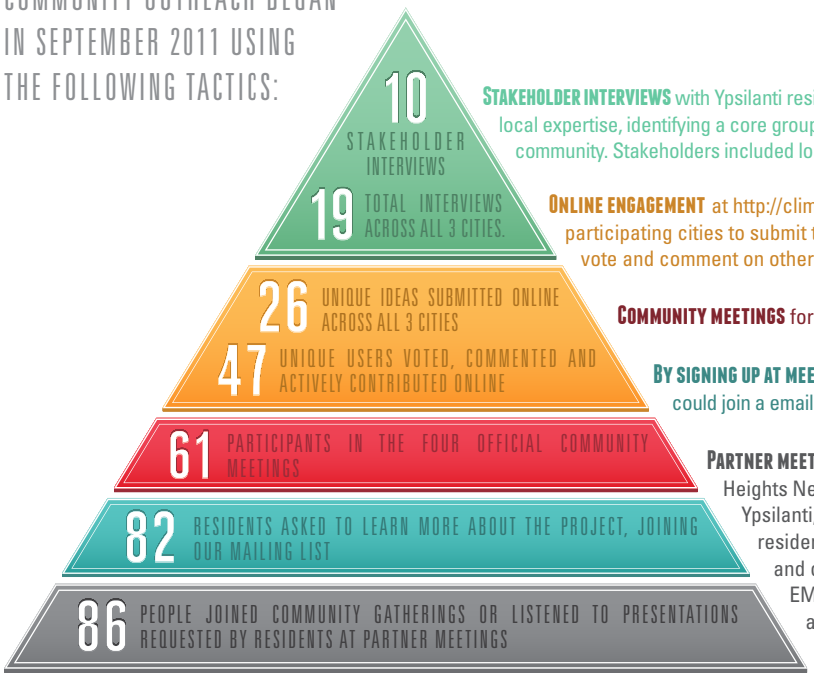
For more data and analysis about the city of Ypsilanti's GHG emission usage by community, sector and source, reference City of Ypsilanti's Greenhouse Gas Assessment, Appendix A.

12 | The Millennial Mayors Congress Energy Savings Protocol, adopted in 2009, calls upon member cities to reduce energy use to 25% below 2005 levels by 2015. However, since City of Ypsilanti would be adopting the protocol later than the Congress as a whole, it would make sense to extend the target year.

PUBLIC ENGAGEMENT

The City of Ypsilanti chose to create this local climate action plan through a community-driven process. By engaging residents from the very beginning of the process, the plan has generated a greater variety of ideas, and the community as a whole will be more likely to support its implementation. This ensures that the final plan will more fully represent community desires, taking into account local challenges and resources. Ypsilanti already has a base of climate activists; however, these stakeholders act independently of one another with varied purpose. The primary planning process goal was to connect these parties with less-engaged citizens around the creation and later implementation of a climate action plan.

COMMUNITY OUTREACH BEGAN IN SEPTEMBER 2011 USING THE FOLLOWING TACTICS:



STAKEHOLDER INTERVIEWS with Ypsilanti residents oriented project staff to community conditions and local expertise, identifying a core group of participants who created connections to the broader community. Stakeholders included local activists, leaders and educators.

ONLINE ENGAGEMENT at http://climateplan.uservoice.com allowed residents from all three participating cities to submit their own ideas to reduce greenhouse gas emissions and vote and comment on others' ideas.

COMMUNITY MEETINGS formed the main tool for community engagement.

BY SIGNING UP AT MEETINGS, online, or by directly contacting staff, residents could join a email list and receive regular project updates.

PARTNER MEETINGS with Historic Eastside, Normal Park and College Heights Neighborhood Associations, the Downtown Association of Ypsilanti, Eastern Michigan University and Growing Hope allowed residents to hear presentations from the climate plan team and contribute their own input to the plan. The meeting at EMU was specifically requested by students and arranged as a special feedback event as part of an activism and education conference series.

Through these opportunities for public engagement, residents were able to set local goals, inform plan writers about community conditions and resources, brainstorm ideas to reduce greenhouse gas emissions, assess proposed strategies, suggest how to best implement the plan, and give general feedback and comments on drafts of the Ypsilanti climate action plan. Residents also sought to move implementation of the lower-priority strategies—those that will not be included in this plan but that could be important for community goals—into the sphere of community work.

The City of Ypsilanti has few resources to implement this climate plan. Many of these strategies for greenhouse gas reductions will need to be driven by the community. This means the City must provide avenues for both formal and spontaneous citizen engagement in plan implementation. A final community meeting in September will kick off this process by informing a broad swath of citizens about the plan and providing them with resources to get involved.

RECOMMENDED
EMISSIONS-REDUCTION STRATEGIES

More than one hundred strategies were collected and considered for this plan, based both on community suggestions and on best practices research. The research considered related efforts in other communities, both locally and across the nation, as well as compilations of climate change mitigation tactics from ICLEI and Transition Network.

For the purpose of the plan document, attention has been focused on providing a greater level of detail on action steps and relevant resources for a smaller number of "first steps" strategies. These strategies were selected based on a combination of effectiveness (clear and significant links to greenhouse gas reduction), community support and perceived feasibility. The selection process also emphasized strategies that offer clear financial returns or other substantial benefits in addition to the greenhouse gas mitigation.

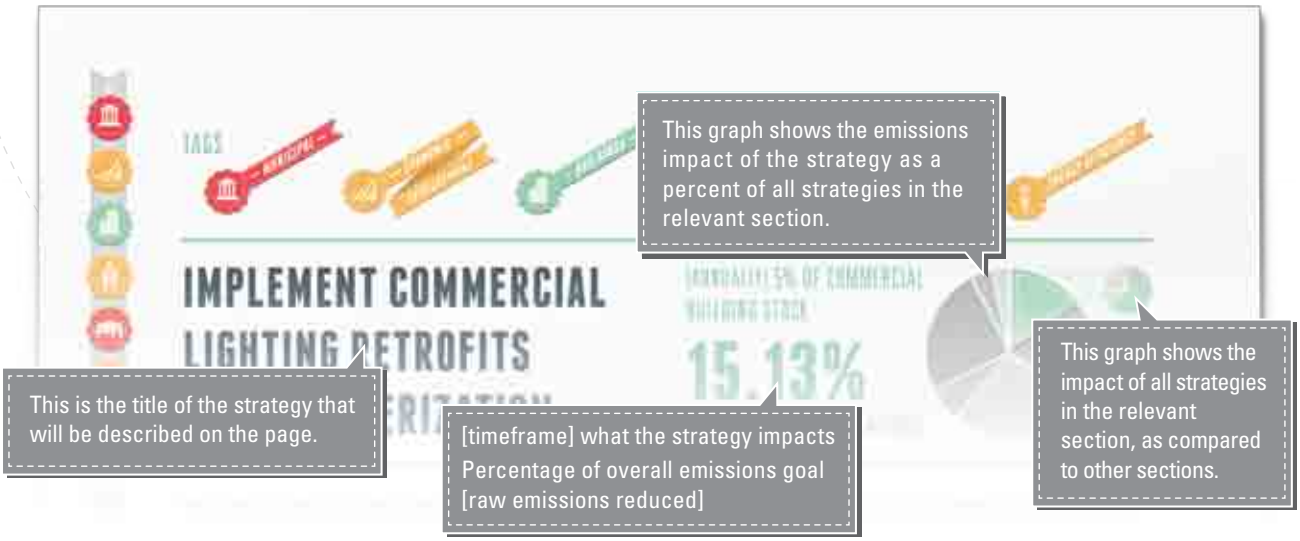
The full list of potential strategies identified during the process is included in Appendix B for reference. Some of these additional strategies may be appropriate "next steps" for future consideration; others are likely to be unworkable, due to cost, legal barriers, or other challenges.

THE SELECTED STRATEGIES HAVE BEEN GENERALLY DIVIDED INTO FOUR CATEGORIES, WITH THE ACKNOWLEDGEMENT THAT THESE OVERLAP AND ARE INTERCONNECTED:

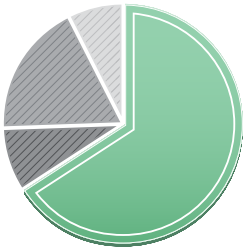
- **BUILDINGS**
- **LAND USE & TRANSPORTATION**
- **INFRASTRUCTURE**
- **CULTURE CHANGE**

Within each strategy, examples are provided of successful implementation in other communities--locally, where possible, estimates of implementation costs on a relevant per-unit basis, estimates of potential greenhouse gas mitigation impacts, discussion of ancillary benefits, identification of potential partners or stakeholders for implementation, and additional considerations that may help appropriately target adoption. Except where otherwise noted, both implementation costs and GHG and cost savings were estimated using the ICLEI Climate and Air Pollution Planning Assistant version 1.5 (CAPPA), which contains standards derived from the experience of local governments across the country.

HOW TO READ A STRATEGY:



Buildings are where many of us live, work, play and emit greenhouse gases. *Ypsilanti's historic buildings are an asset that should be preserved and upgraded for greater energy efficiency.*



67.83%
OF 2020 TARGET
[BUILDING STRATEGY REDUCTIONS]

RECOMMENDED EMISSIONS-REDUCTION STRATEGIES

BUILDINGS

Heating and lighting buildings consumes a substantial amount of energy, producing 27% of emissions from municipal operations and the great majority of emissions at the community scale. As of 2010, city assessing records showed 6,683,191 square feet of commercial and industrial property on 446 parcels, and 6,495,995 square feet of residential property on 4,119 parcels.[13]

Improvements to buildings are made by individual building owners, but the City of Ypsilanti has a number of tools to support these improvements and can also use the improvements it makes to its own buildings to model opportunities for other property owners. Many energy efficiency improvements in buildings have high returns on investment, paying back capital costs in as little as 1 year, or within 5 to 10 years, making them attractive to property owners. National experience also suggests that highly energy-efficient buildings can bring higher rents or sale prices, providing another incentive for owners to make improvements.

Because each building is unique—especially when working with historic properties—it is difficult to identify "one size fits all" solutions. Any energy efficiency work on a building should start with an energy audit to identify the best opportunities to reduce energy usage and save money. DTE Energy offers walkthrough audit service for commercial properties as well as subsidized energy audits for homes; the Southeast Michigan Regional Energy Office and other nonprofits also offer home energy audits for a fee.

Due to the outsized role of energy use by buildings, 70% of the overall emissions reduction goal is targeted at building-related strategies: a 26,487 mtCO2e reduction by 2020. Additional community goals set around buildings include:

- Property owners improve energy efficiency in all types of buildings, with special attention paid to historic structures.
- Owners and residents of rental housing units, a substantial portion of the city's building stock, share in the benefits of energy savings.

Although Eastern's campus does account for a substantial share of emissions within the city, the University has already undertaken improvements at a number of campus facilities, yielding 6,475 mtCO2e in emissions reductions, and nearly $800,000 in annual cost savings. Because Eastern is still in the midst of a multi-year program to identify and implement energy efficiency measures in their buildings, specific recommendations are not presented in this plan.

13| These numbers may not include some un-assessed, tax-exempt properties.

TAGS

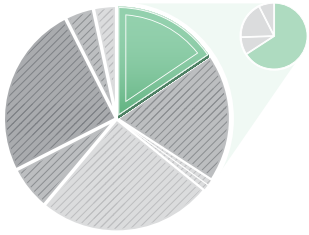
MUNICIPAL · ECONOMIC DEVELOPMENT · BUILDINGS · LIGHTING · COMMERCIAL INDUSTRIAL · ENERGY EFFICIENCY

IMPLEMENT COMMERCIAL LIGHTING RETROFITS AND WEATHERIZATION

[ANNUALLY] 5% OF COMMERCIAL BUILDING STOCK

15.13%

OF 2020 TARGET [4809.6 mtCO2e]



Ypsilanti's historic building stock is certainly an asset to the community. However, this historic nature also indicates that many of the buildings in town have outdated lighting technology. For commercial and institutional applications, lighting retrofits are one of the quickest, surest paybacks, usually in the range of 1 to 7 years. Commercial and industrial spaces should explore other energy efficiency measures, such as HVAC upgrades and insulation, in concert with lighting upgrades. The City of Ypsilanti has already upgraded many of their older fluorescent lights to more efficient fixtures.

EXAMPLES:

Numerous Southeast Michigan Regional Energy Office members have performed lighting upgrades in their municipal buildings. A video case study can be found on the Energy Office's website.[14] Ypsilanti has already upgraded some older fluorescent light ballasts in City Hall.

IMPLEMENTATION COSTS:

Lighting retrofits are often in the range of $60 per 1,000 square feet of building, depending on the technology used.

EXPECTED GHG SAVINGS:

Lighting retrofits can bring energy savings of 15% or more: 1.5 mtCO2e annually per 1,000 square feet of construction, based on ICLEI "typical experience" measures. Applied across approximately 100,000 square feet of municipal buildings, this would total 150 mtCO2e. If 5% of the city's commercial and industrial properties undertake lighting upgrades annually, reductions of 4,000 mtCO2e could be achieved by 2020.

Applying other weatherization measures for commercial and industrial sectors at the same installation level, focusing specifically on HVAC and air-sealing, can achieve an additional 1,067 mtCO2e in emissions reductions by 2020.

CONSIDERATIONS:

There are a number of options for lighting retrofits, ranging from T8 or T5 fluorescents to LED or other forms of solid state lighting technologies. An energy audit focused on lighting is recommended for any building that seeks to upgrade its lighting technology.

ADDITIONAL BENEFITS:

Occupants can expect energy cost savings of approximately $200 per 1,000 square feet, resulting in lower operating costs over the lifetime of the building. Lighting retrofits also reduce fluorescent flicker, improving employee comfort and building appearance. By better shielding a building from the elements, weatherization upgrades make a building more comfortable and save money.

PARTNERS & STAKEHOLDERS:

DTE offers free walk-through inspections to advise commercial building owners on opportunities and available incentives. City of Ypsilanti, as a member of the Regional Energy Office, can also utilize those technical assistance resources to implement lighting retrofits in its buildings. The Regional Energy Office additionally expects to have access to PACE funding soon, and can use this financing to support commercial efficiency upgrades.

RECOMMENDED APPROACH:

Upgrade lighting in city buildings as soon as possible. Advertise the availability of low and no cost energy audit services to help building owners prioritize the energy work they would like to do in their buildings. Partner with relevant organizations to help market available services.

14 | A video case study can be found at the following link: http://www.youtube.com/watch?v=Rc7Fwz4rwek

TAGS

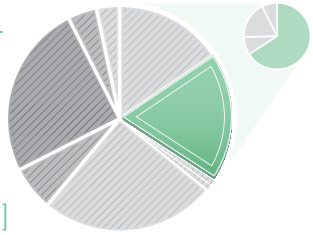
MUNICIPAL | LIGHTING | CAPITAL INVESTMENT | ENERGY EFFICIENCY | COMMERCIAL | INDUSTRIAL

INSTALL AND PROMOTE BUILDING LIGHTING SENSORS

[ANNUALLY] 5% OF COMMERCIAL BUILDING STOCK

18.16%

OF 2020 TARGET [4809.6 MTCO2E]



Installing occupancy sensors on interior lighting can be a simple and cost-effective way to reduce electricity consumption—typical experience suggests a 35% reduction in electricity usage is possible in commercial buildings, with payback of installation costs in less than a year. In other locations, light-level sensors that can dim or brighten lighting based on natural light levels can save energy while maintaining constant light levels. However, these light sensors require dimmer-friendly fixtures and may not be as reliable as occupancy sensors.

IMPLEMENTATION COSTS:

Hardware and installation costs average around $50 per room, or $50-$100 per 1,000 square feet.

CONSIDERATIONS:

The total impact of this strategy is lessened significantly when lighting fixture upgrades are also undertaken. Additionally, the use patterns of many of the city's spaces specifically—whether they are occupied continuously or very rarely—may reduce effectiveness. However, the overall cost/benefit consideration remains high.

EXPECTED GHG SAVINGS:

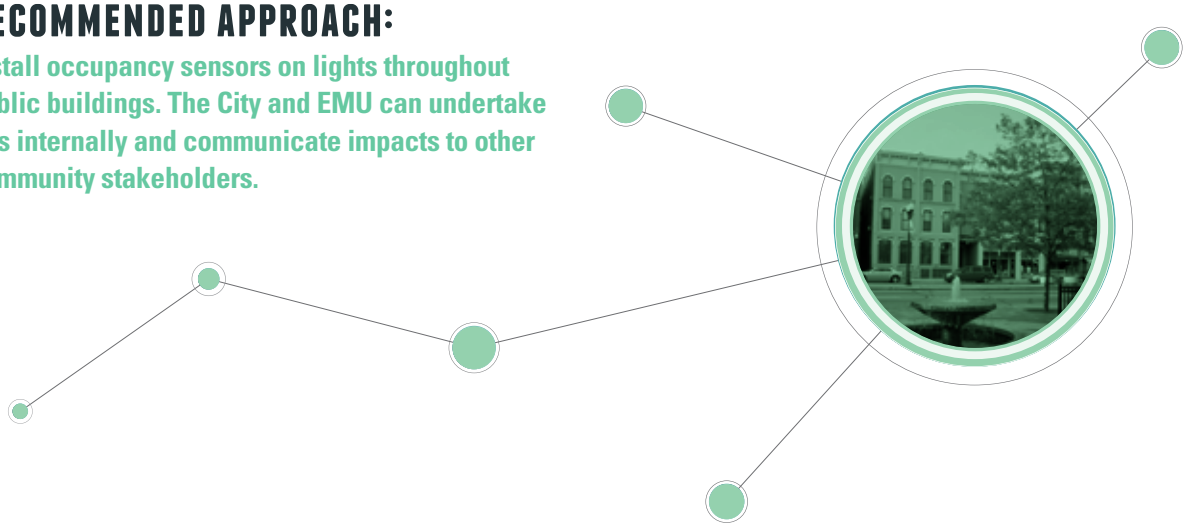
Each 1,000 square feet installed with occupancy sensors can prevent 1.8 mtCO2e annually, with up to $250 in accompanying annual electricity savings. Applied across all city buildings, this could reduce 180 mtCO2e annually.

PARTNERS & STAKEHOLDERS:

Beyond public and institutional buildings, improvements must be made by individual building owners. The Ypsilanti Downtown Development Authority, Downtown Association of Ypsilanti and Ypsilanti Area Chamber of Commerce can help get information to building owners.

RECOMMENDED APPROACH:

Install occupancy sensors on lights throughout public buildings. The City and EMU can undertake this internally and communicate impacts to other community stakeholders.



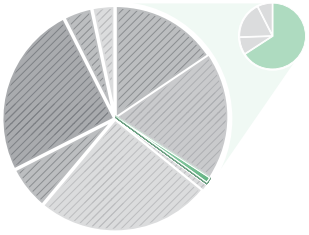
TAGS: COMMERCIAL – INDUSTRIAL – MUNICIPAL – BUILDINGS – RESIDENTIAL

PURSUE SOLAR THERMAL AND PHOTOVOLTAIC OPPORTUNITIES

[ANNUALLY] 20 KW INSTALLED

0.66%

OF 2020 TARGET [176 mtCO2e]



In general, building-scale alternative energy generation should only be pursued after all reasonable energy efficiency measures have been completed: energy efficiency is typically much more cost-effective than energy generation. However, Ypsilanti stakeholders have demonstrated a strong interest in alternative energy generation, and various combinations of federal tax incentives, DTE incentives and grant funding may make solar installations cost competitive. Solar energy generation may include solar photovoltaic (PV), which generates electricity, solar thermal, which heats water, or hybrid, "water-cooled" systems—photovoltaic panels that generate hot water as a byproduct.

EXAMPLES:

The Solar Ypsi initiative has initiated or supported several solar photovoltaic installations around Ypsilanti, and is unique in the region for its online interface that shows live and cumulative energy generation.

IMPLEMENTATION COSTS:

A University of Michigan team working with the Corner Brewery estimated a commercial-building-scaled 20 kW photovoltaic/thermal hybrid system as costing approximately $200,000 to install. [15]

CONSIDERATIONS:

Current federal incentives expire in 2016, while DTE's SolarCurrents program is fully subscribed as of this plan's adoption. Maintaining clear, current information on opportunities for interested businesses and homeowners will be the most significant challenge in supporting adoption. A solar thermal or hybrid system will have the most impact for a building that uses a lot of hot water.

EXPECTED GHG SAVINGS:

Expected GHG savings: Each 1 kW of solar PV/thermal hybrid installed can be expected to offset 2,150 kWh of electricity and 223 cubic feet of natural gas usage annually, preventing 1.1 mtCO2e of emissions.

PARTNERS & STAKEHOLDERS:

Solar Ypsi is a strong unifying brand for the community. The site and the people behind it can serve as a clearinghouse for information and funding opportunities, with the support of relevant non-profits like Clean Energy Coalition and Regional Energy Office.

ADDITIONAL BENEFITS:

Without any financial incentives, a solar system will likely take decades to recoup savings that equal the initial cost. Combinations of currently available incentives, however, can yield payback periods of less than 10 years. Additionally, solar installations have a higher profile than many other strategies: this visibility provides opportunities for education and for promotion of the community's achievements, and support a sense of pride shared by many Ypsilanti residents.

RECOMMENDED APPROACH:

Monitor financing opportunities for solar installation and publicize via Solar Ypsi. The City should monitor grant opportunities for solar hybrid systems on high water-usage public buildings, such as the Rutherford Pool and Fire Department, and remain alert for low-cost ways to support private installations; a PACE program would be one such option. A target of 20 kW of new installed capacity within the city annually would build on recent momentum.

15 | Bennett, Jazmine, Jarett Diamond, Gary Fischer, and Kerby Smithson. "The Green Brewery Project." Apr. (2010). Web. 25 May 2012. <http://hdl.handle.net/2027.42/83664 >.

The Ypsilanti Food Cooperative *installed a 12 panel, 2.38 KW solar array in 2009, in collaboration with SolarYpsi.*

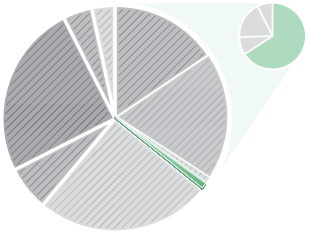
TAGS

INCORPORATE GREEN BUILDING STANDARDS INTO INCENTIVE PROGRAMS

[ANNUALLY] 10,000 SQUARE FEET OF DEVELOPMENT

1.03%

OF 2020 TARGET [272 mtCO2e]



Ypsilanti has made significant use of various redevelopment incentive programs and tax abatements over the past decade, including brownfield, obsolete property, industrial facilities, and facade grant programs. The City's adopted economic development incentive policy states a preference for projects that are "green," but does not provide any specific measure for green development. Providing clear guidance, via reference to industry-accepted standards or certifications, will make this criterion more meaningful and provide clearer guidance to developers and city staff. While Leadership in Energy and Environmental Design (LEED) certification is the most well-known program, it has been criticized for the costs required to achieve certification; alternative systems such as Green Building Initiative's Green Globes certification may be more appropriate to minimize the cost and effort needed to demonstrate compliance.

EXAMPLES:

East Lansing adopted an ordinance in early 2009 requiring any construction project that receives municipal incentives to achieve LEED certification. The requirement is triggered based on the value of incentives as a percent of project cost.

IMPLEMENTATION COSTS:

A Green Globes self-assessment costs about $500, if the city is willing to allow review internally rather than requiring third-party review. A report with third-party verification costs about $3000.

EXPECTED GHG SAVINGS:

Certification can yield energy savings of 25% or more: 3.4 metric tons CO2 annually per 1,000 square feet of construction, based on ICLEI "typical experience" measures.[16] Based on recent history, with an average 10,000 square feet of development projects receiving public subsidies annually, such a policy could save a total of 272 mtCO2e by 2020.

ADDITIONAL BENEFITS:

Occupants can expect energy cost savings of up to $500 per 1,000 square feet, and certified green buildings can also bring higher rents through cachet factors, translating to higher income for property owners and higher property values for the community.

PARTNERS & STAKEHOLDERS:

Developers of recent projects in the city can be asked for feedback on the selected evaluation tool, as many are "repeat users" of incentive programs. Ann Arbor SPARK can help communicate the policy's benefits to prospective developers and businesses.

CONSIDERATIONS:

The Green Globes certification process appears to be reasonably scaled for typical projects in the city, especially when tied to municipal subsidies—recent projects given Obsolete Property Rehabilitation Act abatements, for example, received $50,000 or more per year in effective subsidy. An alternative approach based on building code-style language and review rather than a certification review would require publicly subsidized projects to use a standard such as ASHRAE 189.1 "High-Performance Buildings."[17]

16 | Using CAPPA 1.5 calculator, "Require Green Building for New Construction."

17 | This particular standard, however, does not cover "low-rise residential," which would exclude many recent projects that have received tax abatements.

RECOMMENDED APPROACH:

Adopt a Green Globes certification requirement for any development project receiving at least $10,000 in municipal incentives or tax abatements in a single year. While a trigger based on percent of project cost could also be used, the $10,000 condition is already used in other city incentive policies and would provide consistency. This strategy could also be built into a graduated approach to incentives or abatements that adjusts the package according to the amount of community benefits in the proposed development.

TAGS

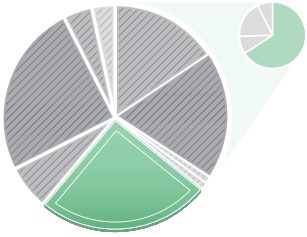
POLICY ENERGY EFFICIENCY BUILDINGS RESIDENTIAL

CREATE ENERGY-EFFICIENT RENTAL HOUSING CERTIFICATION

[ONGOING] ALL RENTAL HOUSING STOCK

24.32%

OF 2020 TARGET [6442.8 mtCO2e]



Energy Efficient Rentals

A large share of Ypsilanti's housing—nearly 2/3 of all dwelling units—is rental-occupied, ranging from single-family homes to large apartment complexes. Rental housing is traditionally difficult to target with energy efficiency programs, because the capital cost of any upgrade is typically borne by the landlord, while the month-to-month costs, and therefore the benefits of any upgrade, are typically the tenants' responsibility. Ypsilanti already has a strong rental housing inspection and certification program that could be leveraged to address this problem through a combination of improved information and regulatory requirements. Chapter 58, Article IV of the City's Code of Ordinances addresses "Landlord and Tenant Relations" and could be extended for this purpose.

Energy efficiency rental housing ordinances could take a number of forms, and many of these options can be combined or implemented in phases over time. Local landlords must be involved in the process to ensure any new requirements are feasible. Many of the community's best and most attentive landlords may welcome new ways to differentiate themselves within a crowded market.

OPTION 1: REQUIRE ENERGY COST DISCLOSURE BY LANDLORDS

The most basic approach to rental greening is to require that landlords provide tenants with information on utility costs prior to signing a lease. This gives tenants a better understanding of the total cost of a unit and allows them to shop around. It also avoids "punishing" landlords who invest in energy efficiency measures and attempt to recoup those costs through higher rents.

Examples: City of Ann Arbor City Code Sec. 8:524, "Information regarding utility charges" requires provision by landlords of estimated utility costs prior to signing a lease.

Implementation costs: Costs are minimal for both the city (developing and passing an ordinance) and for landlords (providing utility cost information).

Considerations: landlords who comply with this requirement can apply "peer enforcement" by encouraging prospective tenants to ask other landlords for the information.

OPTION 2: PROVIDE FORMAL RECOGNITION FOR ENERGY EFFICIENT RENTAL UNITS

Verifying and certifying rental units that meet certain energy standards requires more effort, but would produce a more user-friendly way for tenants to "shop" for efficient units.

Examples: The "Energy Star Homes" program certifies new-construction homes nationally; while not directly applicable for Ypsilanti's rental stock, it can be used to benchmark a certification program.

Implementation costs: Costs would remain minimal for landlords under this option; the City would require more effort to craft and administer the program, though it could still be managed within the existing rental housing inspection program.

Considerations: Staff have already discussed this option with City of Ann Arbor staff and have identified a shared interest: developing such a program in partnership would reduce the burden on city staff. While Eastern Michigan University does not currently offer a database of off-campus housing options, such a tool could help students find high-quality housing as well as offer a way to *communicate the energy efficiency certification.*

OPTION 3: REQUIRE ACHIEVEMENT OF CERTAIN ENERGY STANDARDS

A more aggressive—and effective—approach would require that rental housing units meet certain efficiency standards. These standards would likely need to be phased upwards over time or tied to certain "triggering" events.

Examples: City of Ann Arbor City Code Sec 8:528, "Basic winterization in rental housing" provides minimum air sealing and insulation standards for rental units.

Implementation costs: Costs are minimal for the city, though developing such an ordinance would be more complex than the mandated disclosure option, and compliance costs would be higher for landlords--around $3,000 per unit for weatherization.

Considerations: Current "weak market" conditions and Ypsilanti's small geographic size mean this option may not be appropriate at present, due to concerns about placing additional burdens on landlords in the city that are not felt in the adjacent townships.

FOR ALL OPTIONS:

EXPECTED GHG SAVINGS:

Modeling this option as an educational program targeting Ypsilanti's 5,300 rental housing units, 10% energy savings can be achieved, saving 1.20 mtCO2 per rental household, or 6,443 mtCO2 in total. This total, however, will not likely be achieved for several years due to the generally indirect, market-driven nature of the first two approaches.

ADDITIONAL BENEFITS:

Median rental household earnings in Ypsilanti are around $21,000 annually. This income group spends about 11% of its annual income on home energy costs. Providing tenants with the opportunity to reduce their home energy costs frees up income for other needs.

PARTNERS & STAKEHOLDERS:

Local landlords, DTE and Ypsilanti Community Utilities Authority (YCUA), and the EMU Office of Campus Life can help design requirements that are appropriate for local conditions and easy to comply with. Ypsilanti Township could also be a partner in development and adoption of standards, as they look for ways to encourage and support "high road" rental properties in their community.

RECOMMENDED APPROACH:

Develop a utility costs disclosure ordinance for rental housing units. Disclosure should include actual billings from utility providers, plus a calculation of each unit's share, in the case of multi-unit properties with prorated utilities, and should be provided even when utility costs are included in rent charges. Depending on resources, a disclosure ordinance could be a first step, followed by a formal recognition or certification program for energy efficient units, or the two could happen at the same time. City of Ann Arbor, Ypsilanti Township, and Eastern Michigan University should all be approached to partner on any effort to establish uniform standards that are easy for landlords and tenants to understand.

TAGS

ENERGY EFFICIENCY

RESIDENTIAL

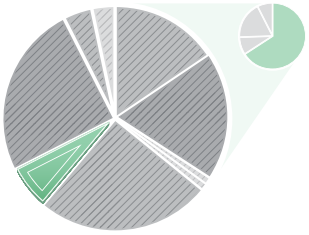
BUILDINGS

PROMOTE RESIDENTIAL WEATHERIZATION PROGRAMS

[BY 2020] 900 HOMES

6.12%

OF 2020 TARGET [1620 mtCO2e]



Residential weatherization projects make homes more energy-efficient through methods such as insulation and caulking. Residents also become more aware of their energy use, spend less in energy costs and find that their homes become more comfortable. The City of Ypsilanti is already a participant in two programs that assist residents in weatherizing their homes: BetterBuildings for Michigan and, through Washtenaw County, the federally-funded Weatherization Assistance Program (WAP).

EXAMPLES:

BetterBuildings for Michigan, a state-run program funded with federal dollars and administered by the Southeast Michigan Regional Energy Office, will "sweep" the City of Ypsilanti in June-December 2012. They expect to achieve 15% energy reductions in approximately 500 homes in Ypsilanti.

IMPLEMENTATION COSTS:

A basic weatherization package that includes an energy audit, customer education, and installation of more efficient compact appliances like compact fluorescent lights and water saving showerheads costs between $1,000 and $1,300.

EXPECTED GHG SAVINGS:

A basic weatherization package reduces a typical household's emissions by about 1.1 mtCO2e per year. If BetterBuildings hits its targets, including basic weatherization and additional measures, they will reduce annual emissions in Ypsilanti by 720 mtCO2e by the end of 2012. Targeting an additional 50 homes per year through various programs will yield a total of 1620 mtCO2e by 2020.

ADDITIONAL BENEFITS:

The average household can expect to save between $300 and $450 per year after a basic weatherization project. Residents will also be more comfortable in their homes, as they are better insulated from the elements, and may see property values increase.

PARTNERS & STAKEHOLDERS:

Homeowners and landlords should be made aware of existing opportunities and the benefits that come along with weatherization. Federal, state and county governments as well as utility providers such as DTE should be tapped for funding and other support.

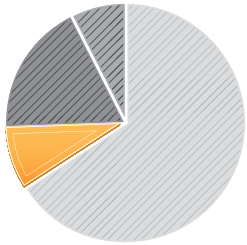
CONSIDERATIONS:

Weatherization programs received a large influx of support from the American Recovery and Reinvestment Act. Many of the opportunities afforded by this expansion, however, are set to end at the end of 2012. The Weatherization Assistance Program may continue, but is targeted only towards low-income households. Federal and state budgets will largely determine future availability of funds for weatherization.

RECOMMENDED APPROACH:

Promote available energy efficiency incentive programs to reach maximum adoption in the city. The city and community partners should aggressively promote available home (and business) energy efficiency programs in order to capture as much benefit as possible for city residents. Some of these programs, like BetterBuildings, can offer as much support as residents are able to take advantage of, but are time limited; others, like WAP, are more limited in the total funds available, and the city should be alert for opportunities to support expanded funding at the state and federal levels.

These new LED streetlights in Ypsilanti's downtown area *demonstrate an infrastructure project that saves money for the city, beautifies the downtown area, and reduces GHG emissions.*



8.77%

OF 2020 TARGET

[INFRASTRUCTURE STRATEGY REDUCTIONS]

RECOMMENDED EMISSIONS-REDUCTION STRATEGIES

INFRASTRUCTURE

The following strategies cover programs the city could initiate in order to reduce the amount of greenhouse gases emitted by municipal service provision—or by the behaviors it supports. Several of these deal with waste stream management, as an opportunity to affect the "upstream" impacts related to manufacturing the items that residents consume. It is important to note that Ypsilanti has been proactive with providing services such as curbside recycling and yard waste pick-up, but only 18.8% of the municipally collected waste stream (by weight) is in the form of recycling, compared to the national average of 34%; since this does not include larger housing complexes or business users, most of whom only have garbage dumpsters, not recycling, the overall recycling rate is likely even lower.

By implementing the following strategies, we seek to achieve 15% of our total greenhouse gas reduction target, or 5,676 mtCO2e by 2020. The community has also stated qualitative goals for Ypsilanti including that the city maintains the high quality level of its city services, with special focus on waste management and energy efficiency.

TAGS

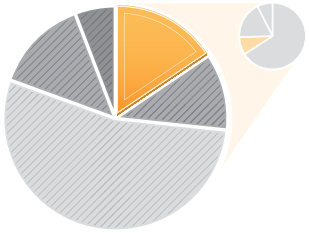
INFRASTRUCTURE | ENERGY EFFICIENCY | CAPITAL INVESTMENT | LIGHTING

UPGRADE STREETLIGHTS TO LEDS

[BY 2020]
ALL STREET LIGHTS CITYWIDE

8.99%

OF 2020 TARGET [510.4 mtCO2e]



LED-based street lighting options are becoming more prevalent, typically offering opportunities for fast return on investment through lower energy use and reduced maintenance costs relative to traditional mercury vapor and high pressure sodium lighting. With 54% of Ypsilanti's governmental sector emissions coming from street lighting and traffic signals, this is a high-priority target. Ypsilanti's street lighting has a high percent of total energy use partially because of reduced energy use by the city in other areas, but is also high on a per capita basis when compared to other cities. Ypsilanti has 1,770 streetlights that are owned and operated by DTE.

EXAMPLES:

Ypsilanti's West Cross streetscaping project upgraded 28 streetlights to LEDs and will save $3,500 annually at DTE's current rates.

IMPLEMENTATION COSTS:

A typical streetlight upgrade costs $600-$700 per fixture, including hardware and installation. Replacing all DTE-maintained streetlights at this rate would cost a total of $1.1 million, though economies of scale could be achieved for larger installations.

EXPECTED GHG SAVINGS:

Each streetlight upgrade averages 0.25 mtCO2e in annual savings, yielding about 500 mtCO2e if all of the streetlights were converted to LED.

ADDITIONAL BENEFITS:

DTE does not yet have standard rates for LED fixtures, so exact savings are hard to estimate, but cities in DTE's service area have experienced an average of $90 annual savings per fixture. This means the payback period for the initial conversion costs is about 7 years. If Ypsilanti's entire inventory of street lighting were upgraded, the City could save $160,000 annually. In addition to cost savings, many people prefer the whiter light of LED fixtures to traditional yellow high-pressure sodium lighting. The conversion could also reduce light pollution and glare.

PARTNERS & STAKEHOLDERS:

Any conversion must be negotiated with DTE. By partnering with other institutional entities such as EMU or with other cities via the Regional Energy Office, joint purchasing could reduce hardware costs. The Michigan Public Service Commission and Department of Energy, Labor and Economic Growth have provided grants for streetlight conversions in recent years, which could reduce costs further. The DDA may also pay for streetlight upgrades in their designated downtown districts through TIF funds.

RECOMMENDED APPROACH:

Upgrade as many street lights as possible with the city's revolving loan fund, working with the DDA, EMU and Regional Energy Office to achieve the best price through bulk upgrades and to identify any grants or other funding opportunities. This should be undertaken as soon as possible, so that savings from initial upgrades can pay for additional lights in future years. The DDA and Public Services Department should also review existing light levels during this process—in some locations, additional energy and cost savings may be achieved through removal of unneeded fixtures.

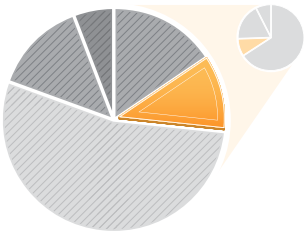
TAGS

INFRASTRUCTURE | BEAUTIFICATION | CAPITAL INVESTMENT | WELL-BEING

INCREASE STREET TREE CANOPY

[ANNUALLY]
112 STREET TREES PLANTED

6.31%
OF 2020 TARGET [358.4 mtCO2e]



Canopy trees provide several climate-related benefits: absorbing carbon dioxide, shading buildings to reduce cooling costs and reducing the "heat island" effect of exposed street and parking lot asphalt. Canopy trees additionally provide aesthetic benefits, enhancing quality of life and property values. While many Ypsilanti neighborhoods have substantial canopy cover, the city's February 2012 Urban Forestry Management Plan identified 3,000 additional planting sites within street rights-of-way and parks, not including opportunities on private properties.

EXAMPLES:

The City of Ann Arbor has one of the largest urban forestry programs in the state, with over 47,000 trees. The city's canopy saves businesses and homeowners an estimated $2.25 million in energy costs annually.

IMPLEMENTATION COSTS:

The Urban Forestry Management Plan prepared by Davey Resource Group recommends planting 974 trees over the next 8 years. At an average cost of $110 per tree, this adds to approximately $27,000 annually.

PARTNERS & STAKEHOLDERS:

Individual residents can easily engage in tree planting, and community members have expressed interest in implementing this strategy.

EXPECTED GHG SAVINGS:

Each canopy tree can offset about 0.4 mtCO2e annually through a combination of carbon absorption and reduced cooling costs.

ADDITIONAL BENEFITS:

The City of Ann Arbor's urban forestry program is estimated to return $2.68 for every $1 invested, though most of these benefits accrue to private property owners through energy savings. Furthermore, street trees add an estimated 3% to residential property values.

CONSIDERATIONS:

The DTE Energy Foundation offers annual matching grants for tree planting. The city's recently-established tree nursery will provide low-cost trees, but they will not be ready to plant for a few years. City staff has proposed a streamlined process for allowing residents and business to plant trees in public rights-of-way.

RECOMMENDED APPROACH:

Identify funding sources to implement recommended tree planting program, maintain existing trees and continue policy support. In addition to traditional public and grant funding sources, tree planting lends itself to crowdsourced approaches, including small donations or direct individual planting. The City should also ensure that its landscaping standards for development favor canopy tree planting, either on-site or in rights-of-way.

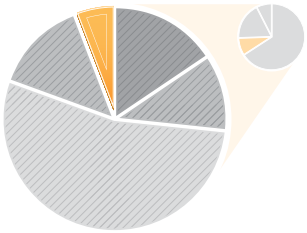
TAGS: INFRASTRUCTURE, CAPITAL INVESTMENT, BUILDINGS, WASTE, RESIDENTIAL

UPGRADE WASTEWATER PLANT CONTROLS & PROMOTE RESIDENTIAL WATER EFFICIENCY

[ONE-TIME]
CONTROL UPGRADES AT YCUA

3.20%

OF 2020 TARGET [181.5 mtCO2e]



Wastewater treatment plants are energy-intensive: the Ypsilanti Community Utilities Authority spends over $2 million annually in utility costs alone for its wastewater plant. Recent advances in plant control systems can allow for quick energy savings of 10-20% in the treatment process, just through upgrades of sensors and software. Water efficiency measures that reduce the total load and peak flow rates to the treatment plant can also save substantial amounts of energy.

EXAMPLES:

The City of South Lyon performed sensor and control upgrades on its wastewater treatment plant in 2011, reducing annual energy usage by 10-15% and recouping upgrade costs in the first year. DTE and the Better Buildings for Michigan program provide residents with low-flow faucet aerators and showerheads as part of their home energy efficiency packages.

IMPLEMENTATION COSTS:

The cost of wastewater treatment plant control upgrades depends on the specifics of the current system and opportunities identified. Home water efficiency measures—low-flow faucets, showerheads, and toilet replacements—cost about $500 per bathroom.

ADDITIONAL BENEFITS:

In addition to the system-wide cost savings provided by treatment plant improvements, with a potential payback of 6 months to 2 years, home water efficiency measures can save individuals money: a residential bathroom water efficiency package will save residents about half of a billing unit (measured in CCF—one hundred cubic feet of water) monthly, or about $9 per billing cycle.

EXPECTED GHG SAVINGS:

Control upgrades to the YCUA plant could save an estimated 550 mtCO2e annually, system-wide. Residential water efficiency measures can save about 0.22 mtCO2e per home, stemming from less water usage and resulting reductions in wastewater treatment and pumping.

PARTNERS & STAKEHOLDERS:

The City of Ypsilanti appoints two members of YCUA's board, and should work with the adjacent townships to move energy efficiency measures forward. Local knowledge is available to support this work: Ann Arbor and South Lyon were the first two wastewater plants in Michigan to perform control upgrades, and Ypsilanti-based Utilities Instrumentation Service, Inc. (UIS) designed and implemented the South Lyon project.

CONSIDERATIONS:

Reducing water usage benefits YCUA in several ways: reducing overall and peak loading and preventing the need for future capacity expansions. In addition to the DTE and BBFM programs, YCUA could consider promoting individual home or business water efficiency measures through a PACE-style financing program: providing individual loans to be paid back through the property's future water bills.

RECOMMENDED APPROACH:

YCUA should investigate wastewater treatment control upgrades immediately—Utilities Instrumentation Service, Inc., staff have expressed an interest in working with YCUA on this project. YCUA should additionally consider an internal financing system for individual home and business water efficiency improvements, and can likely leverage the experience of City of Ann Arbor or Regional Energy Office staff to design a PACE-like program.

TAGS

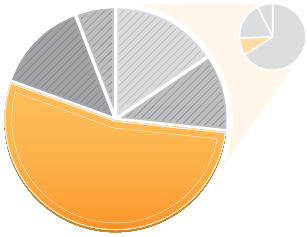
WASTE | EMU | COMMUNITY BUILDING | INSTITUTIONAL PARTNERS

INCREASE RECYCLING RATES THROUGH COMPETITION

[BY 2020] RECYCLING RATE INCREASED TO NATIONAL AVERAGE

30.85%

OF 2020 TARGET [7050.7 mtCO2e]



Competition is a great motivator, and an inter-neighborhood recycling competition is a relatively low-cost way to increase visibility and encourage people to work together towards a shared goal: proving that where they live is the greenest and best. With a 2010 recycling rate of 18.8%, residents of Ypsilanti have a fair amount of room to improve their waste practices.

EXAMPLES:

Alameda County in California has committed to reducing waste by 75%. In pursuit of this goal, they've established the website StopWaste.org and hold an annual "Ready Set Recycle" contest.[18] They ask citizens to commit to keeping all recyclable and compostable items out of the trash, and randomly select garbage bins to measure the amount of these items in trash. Winners are eligible for cash and prizes. In the 2011 contest, 1537 residents made online pledges and 893 homes were selected for sorting.[19]

IMPLEMENTATION COSTS:

The program in Alameda County cost $856,712.[20] This was paid for out of facility fees and a grant from the recycling board to a nonprofit. Assuming the same cost per person, Ypsilanti could expect the program to cost $44,000. However, this program was fairly expensive because Alameda County sent out trash bin sorters ahead of the regular trash collectors. If, instead, Ypsilanti simply weighed the amount recycled, costs could be kept to a minimum.

ADDITIONAL BENEFITS:

A recycling competition would increase visibility for better waste management practices and can create better habits in participants, encouraging behavior change after the competition has ended. Reducing the amount of waste landfilled also can save the City money. The amount saved is variable, but as of May 2012, the City paid $24.99 per ton of trash landfilled and received $14 per ton of recyclables.

EXPECTED GHG SAVINGS:

Each ton of waste diverted to recycling rather than to a landfill saves 2.87 metric tons CO2e. If residents were challenged to increase their rate of recycling from the 2010 city average of 18.8% to the national recycling rate of 34.1% (and met that challenge), 610 tons of waste would be diverted from the landfill into recycling bins, saving 1750.94 mtCO2e emissions.

PARTNERS & STAKEHOLDERS:

As the provider of recycling services, the City of Ypsilanti should host and coordinate any waste-reduction competition. The Ann Arbor Materials Recovery Facility handles Ypsilanti's recycling and should also be included in any recycling efforts. The City should work with existing neighborhood associations to promote and coordinate the competition.

CONSIDERATIONS:

Other Michigan cities and counties have paid for expanded recycling services through landfill or waste fees or have created intergovernmental agreements to expand purchasing power and lower prices. EMU already participates in an annual inter-university recycling competition—the community could use this as a model or compete against students to increase the rate of recycling. A system that measures waste and recycling amounts per pickup day could best allow for neighborhood competition, but because it would require a change in DPW methods, might be prohibitively expensive. A University of Michigan study found that four key themes to a successful recycling program were culture, convenience, communication of information and custodial support.[21]

18 | *"Ready Set Recycle Contest," StopWaste.Org. Web. 30 May 2012. <http://www.readysetrecyclecontest.org>.*

19 | *Becerra, Jeff. "Winning the Recycling Game." Resource Recycling Aug. 2011: 31-33. Print.*

20 | *"Annual Budget Fiscal Year 2011-12." StopWaste.org. Alameda County Waste Management Authority, June 2011. Web. 1 June 2012. <http://stopwaste.org/docs/fy11-12-budget.pdf>.*

21 | *Fox, Elizabeth. "Recycling Best Practices Report." University of Michigan Plant Building and Grounds Services. Aug. 2011. Web. 30 May 2012. <http://www.recycle.umich.edu/grounds/recycle/PDF/RecyclingBestPracticesReport.pdf>.*

RECOMMENDED APPROACH:

Work with neighborhood associations and Eastern Michigan University to hold a recycling competition, based either on improvements over past performance or on town vs. gown recycling rates. The challenge for Ypsilanti residents should be to collaborate with or out-compete neighbors, but also on an individual level, to achieve the national average rate of recycling: 34.1%. The City should consider using a neighborhood competition as a pilot—perhaps working only with a few neighborhoods to begin with or seeking to later expand to include local businesses, as well.

TAGS

PLACE ARTISTIC TRASH AND RECYCLING BINS THROUGHOUT COMMUNITY

Universities across the country have used decorated waste containers to encourage recycling efforts and proper waste disposal on their campuses while providing a creative outlet for local talent. These artistic receptacles beautify the city, pay for themselves with sponsorships, and teach citizens how to dispose their trash and recyclables.

EXAMPLES:

Collegetown ART (Art, Recycling, and Trash cans) at Cornell University, as part of a student sustainability effort, held an art contest in the spring of 2010 to decorate bins on campus. Interested parties can sponsor a bin for between $225 and $900, and their company logo will appear on a decorated bin. [22] Indiana University's "More Art, Less Trash" program hosted by the Student Sustainability Council offers small cash prizes each year for designs submitted to be displayed on ten recycle bins in high-use locations. [23]

IMPLEMENTATION COSTS:

Costs for implementation involve materials to create refuse and recycling bins. A 95-gallon waste bin typically costs between $50 and $75. The DDA budget currently allots $20,000 annually for "pedestrian trash receptacle collection" in downtown areas. The city does not currently have public recycling bins, though it does provide recycling services to the downtown.

A report from 1993, shortly after University of Michigan (UM) instituted public recycling bins, states that the costs of recycling generally equal the savings from the reduced amount of trash it pays to be sent to the landfill.[24] UM has reported higher amounts of recycling on campus since it instituted public recycling bins.[25] The university receives payment for recyclables from its solid waste provider, which ultimately means that increased recycling reduces the cost to dispose of waste.

EXPECTED GHG SAVINGS:

Every ton of waste diverted to recycling rather than a landfill saves 2.87 mtCO2e. If public recycling in specially-indicated bins encouraged Ypsilanti residents to increase the community's rate of recycling to the national average of 34.1%, as discussed in the strategy "Increase recycling rate through competition," the community would reduce emissions by 1750.94 mtCO2e.

ADDITIONAL BENEFITS:

This strategy will expose residents and visitors to local artists and make the city's beautification and recycling efforts more visible. Displaying artwork created by local youth also provides an opportunity to teach children about environmental responsibility and recycling, especially if artistic bins are installed on school property. Installing bins that are available to the public at all hours of the day can support recycling city-wide.

PARTNERS & STAKEHOLDERS:

Ypsilanti could partner with Eastern Michigan University and local schools to start a small-scale outdoor recycling program that features artistic bins and hold a contest to create the bin art. The DDA could also partner with local businesses to sponsor bins downtown.

CONSIDERATIONS:

The City will need to ensure the recycling and trash receptacles are emptied regularly, approve the addition of a public recycling service, site these bins in high-traffic areas and limit the risk of cross contamination. The City of Ann Arbor's Commercial Recycling Expansion and Implementation Plan indicates that cross-contamination can be limited by ensuring that recycle bins are visibly distinct from garbage receptacles.[25] For example, if a recycling bin should only be used for aluminum cans, the bin should indicate this requirement in writing and with imagery. Recycle bins that are specifically intended for plastic bottles and aluminum cans could have cylindrical holes to deposit the intended materials, while bins for paper could have small, rectangular holes. Eye-catching designs can encourage citizens to use the proper receptacle. Depending on volume, sidewalk recycling could be emptied as part of the weekly pickup of curbside bins from individual businesses, or may need to be incorporated into the DDA's contract for emptying sidewalk trash cans.

RECOMMENDED APPROACH:

Partner with EMU, local schools, and the DDA to create an artistic trash bin design contest, incorporating local sponsorships and educational efforts. Test the program first on EMU's campus while exploring options to expand downtown recycling, then move outwards into city itself. Additional savings could be generated by investing in an outdoor recycling service in the city's parks and downtown areas.

22 | *Cornell University, "College Town Art," Web. 24 April 2012. <https://sites.google.com/site/collegetownart>.*

23 | *Indiana News Room, "'More Art, Less Trash' artistic outdoor recycling bins installed on campus," 9 April 2009. Web. 24 April 2012. <http://newsinfo.iu.edu/news/page/normal/10489.html>.*

24 | *EPA, "2009 Success Story: University of Michigan." Web. 24 April 2012. <http://www.epa.gov/wastes/partnerships/wastewise/challenge/gameday/09success-um.htm>.*

25 | *University of Michigan, "Recycling Timeline," 11 November 2010. Web. 24 April 2012. <http://www.recycle.umich.edu/grounds/recycle/history_of_recycling.php>.*

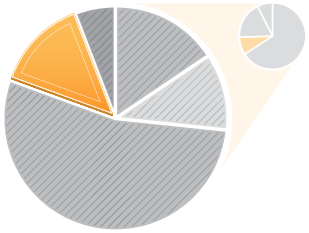
TAGS

CREATE KITCHEN COMPOST DROP-OFF SYSTEM

[BY 2020]
5% OF FOOD WASTE COMPOSTED

7.93%

OF 2020 TARGET [450 mtCO2e]



The US EPA estimates that food waste makes up 14 percent of the US municipal solid waste stream, making it the largest single component of landfilled material. Much of this waste could be composted rather than sent to a landfill.[26] Ypsilanti currently has a functional yard waste collection program and a free yard waste compost and wood chip pick-up site. Residents are interested in adding kitchen compost collection to these existing services. This requires more active management than composting yard waste alone in order to prevent contamination with non-compostable or vermin-attracting material. However, the added operations would result in a reduction of greenhouse gas emissions, preservation of landfill space, reduced need for fertilizers, a reduction in tipping fees by redirecting funds to sustainable waste management practices, and the production of a higher-value, more nutrient-rich compost. Additionally, newer self-contained biodigesters can maximize the amount of emissions avoided by capturing gases from compost materials for use as a heating fuel source for nearby buildings, and can also handle a wider variety of material, reducing the problems of contamination.

EXAMPLES:

The US EPA provides guidance on how to incorporate "food residuals" into existing yard waste and composting operations:[27] this includes all pre- and post-consumer foods and food by-products, as well as organic items which may accompany food, such as manufactured organic materials and soiled paper products. The EPA guide details the rate of decomposition for various types of food waste, different methods to create the compost, and how to produce mixes suitable for redistribution or resale. Closer to home, the City of Ann Arbor collects uncooked vegetable waste as part of its curbside compost system.

IMPLEMENTATION COSTS:

Cornell University's 1999 report "Small to Medium Scale Composting of Food Wastes in New York City" evaluated the use of municipal composting systems. A city can purchase existing equipment for composting food waste. This could cost between $30,000 and $80,000, depending on the amount of waste the city expects to collect. Labor to maintain the system can cost between $15 and $20 an hour.[28] The City of Eugene, Oregon has implemented a system for commercial food waste collection that charges per bin for weekly pick-up, based on cubic yard capacity. Combined with compost sales, this fee is intended to cover the costs of running the service.

EXPECTED GHG SAVINGS:

Each ton of food waste recycled rather than landfilled can reduce emissions by 1 to 3 mtCO2e, primarily in methane, depending on what practices are used. Using the EPA's estimated share of total waste, Ypsilanti's municipal waste stream likely contains 745 tons of food waste annually. For every 1% of this amount diverted to compost, up to 22.3 mtCO2e could be reduced.

ADDITIONAL BENEFITS:

Finished compost can be added to lawns and gardens to replenish nutrients in the soil. Biodigesters can additionally help heat nearby buildings, reducing heating costs from purchase of natural gas. Each 1% of the food waste currently landfilled will reduce landfill tipping costs by approximately $175.

26 | *"Basic Information about Food Waste." US EPA. Web. 10 May 2012. <http://www.epa.gov/osw/conserve/materials/organics/food/fd-basic.htm>.*

27 | *The U.S. Composting Council, "Best Management Practices (BMPs) for Incorporating Food Residuals into Existing Yard Waste Composting Operations," 2009. Web. 24 April 2012. <http://www.epa.gov/reg3wcmd/pdf/FR2YW_BMP.pdf>.*

28 | *"Small to Medium Food Wastes in New York City," Cornell University, August 1999. Web. 24 April 2012. <http://compost.css.cornell.edu/NYCComposting.pdf>.*

PARTNERS & STAKEHOLDERS:

The larger the venue, the more food waste is produced—partnering with the Downtown Association of Ypsilanti, the school system, or the proposed Washtenaw County Kitchen Incubator could provide large single sources of compostables, reducing collection costs and the difficulty of monitoring for contamination. One of these organizations or the local nonprofit Growing Hope should undertake a food waste audit to identify opportunities for a pilot project.

CONSIDERATIONS:

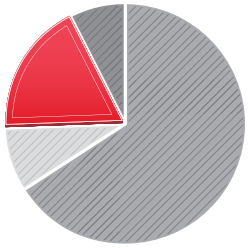
Focusing on large producers of material can minimize contamination challenges, as can using biodigesters rather than open air composting. As compared to a curbside system, a voluntary drop-off program would eliminate collection costs and provide better control of waste stream. Educational efforts around home composting may be more cost-effective than a citywide system for non-institutional waste.

RECOMMENDED APPROACH:

Partner with Growing Hope and local businesses that are high generators of food waste to implement a pilot program for a municipal kitchen compost system using the drop-off site method.
Solid waste, alternative energy or similarly targeted grants should be explored to fund installation of a biodigester at any selected pilot site.

Composting turns kitchen and yard waste into nutrient-rich soil.

Land use patterns are one of the largest factors *in community greenhouse gas emissions. Many Ypsilanti residents already take advantage of the city's walkable streets and transit service.*



18.97%

OF 2020 TARGET
[LAND USE & TRANSPORTATION STRATEGY REDUCTIONS]

RECOMMENDED EMISSIONS-REDUCTION STRATEGIES

LAND USE & TRANSPORTATION

Land use patterns are a major determinant of development, travel choices and other behaviors that create greenhouse gas emissions. A community with smaller lot sizes and walkable commercial districts near residential areas will support walking, transit and cycling as alternatives to driving. In another example, a mixture of single- and multi-family housing types will reduce heating costs due to shared walls. Various sources have noted this impact: a recent EPA study showed that the choice to live in a transit-supportive location reduces household emissions more than undertaking home energy efficiency improvements and driving a fuel-efficient car.[29] The international Transition movement noted in its guide to climate planning that communities need to address land use first, "or else you may as well stop now."[30]

The City of Ypsilanti contains a downtown area and neighborhoods that feature walkable, compact and diverse land uses, and has taken conscious steps to encourage biking and walking and preserve transit service. The City has also sought to encourage infill development over the past decade, including downtown loft projects, rehabilitation of the former high school into senior housing, and construction of additional student housing. Parts of this section are therefore dedicated to measuring the expected impacts of existing policies and efforts. However, Ypsilanti still has improvements to make to its land use and transportation patterns. Some portions of the city are generally hostile to walking, such as the Washtenaw Avenue corridor, or lack neighborhood amenities, such as the Leforge Road area, and may require additional efforts to create the type of district that the community wants and that permit low-emissions travel behaviors.

Many more Ypsilanti residents and workers could take advantage of low-emissions travel modes. The Census's Longitudinal Employer-Household Dynamics commuting dataset from 2010 shows that 52.7% of working Ypsilanti residents worked within 10 miles of home, including 29.6% working in Ann Arbor and 8.2% within Ypsilanti. Similarly, 50.7% of the 6,424 people employed within city limits live within 10 miles of their workplace. Many of these Ypsilanti residents and employees therefore have commute distances which make walking (1 mile), bicycling (5 miles), or transit (10 miles) reasonable options.

This plan seeks to accomplish 10% of its greenhouse gas reductions target through land use and transportation measures, reducing emissions by 3,784 mtCO2e by 2020, with the following additional goals:

- Vacant and underused properties are redeveloped or reclaimed as green, productive spaces.
- Goods are services are available within neighborhoods, or within walking distance of residents.
- Streets are safe for all, providing for travel by any mode without fear of either crime or traffic crashes.
- Residents, commuters, and students choose to bike, walk or bus when possible.

29| US EPA, "Location Efficiency and Housing Type: Boiling it Down to BTUs," March 2011. Web, 13 June 2012. <http://www.epa.gov/dced/pdf/location_efficiency_BTU.pdf>.

30| Daniel Lerch, Post Carbon Cities: Planning for Energy and Climate Uncertainty. Sebastopol, CA: Post Carbon Press, 2007.

TAGS

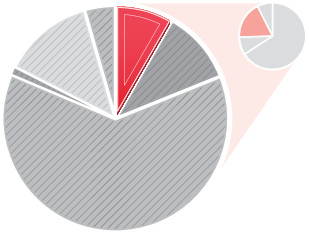
TRANSPORTATION · NON-MOTORIZED · WELL-BEING · CAPITAL INVESTMENT · ECONOMIC DEVELOPMENT

COMPLETE NETWORK OF BICYCLE FACILITIES

[ANNUALLY] 1 MILE BIKE LANE/ PATH CREATED

15.86%

OF 2020 TARGET [600 mtCO2e]



Ypsilanti has shown a strong commitment to complete streets and non-motorized transportation, including bicycling, and has nearly 11.5 miles on on-road bike lanes and off-road paths. The 2006 WATS Non-Motorized Plan identifies 37.3 additional miles as "deficient" for bicycles (with each side of a two-way street counted independently). As the City is already actively pursuing this strategy, it is included primarily for the consideration of greenhouse gas impacts.

EXPECTED GHG SAVINGS:

Each 1 mile of bike facilities per square mile of city area is estimated to increase cycling share by 1% of total travel.[31] Applying this figure to non-freeway weekday passenger travel in Ypsilanti, each mile of bike lanes could convert 162,000 motor vehicle miles traveled (VMT) to cycling each year, leading to a reduction of 75 mtCO2e. Assuming an additional mile of bike lanes is created in the city each year, through reconstruction or restriping projects, 600 mtCO2e could be reduced annually by 2020.

CONSIDERATIONS:

The Washtenaw County Road Commission will be an important partner in extending the bicycle network beyond Ypsilanti. WCRC has implemented 4-lane to 3-lane "road diets" recently and found them effective in improving both bicycle and automobile safety while maintaining road capacity. Including way-finding signs could help increase visibility of these projects and encourage more walking and biking, especially if these signs are visible from cars.

RECOMMENDED APPROACH:

Continue development of bicycle and pedestrian network in coordination with Townships, WCRC, and Border to Border (B2B) trail development. Considering existing, predominantly east/west commuting patterns, roads like Forest Avenue, East Cross and West Cross/Packard may hold the most benefit in terms of converting traffic from motor vehicle miles to bicycle miles.

31 | Dill, Jennifer and Theresa Carr. "Bicycle Commuting and Facilities in Major US Cities: If You Build Them, Commuters Will Use Them." Transportation Research Record: Journal of the Transportation Research Board, No. 1828, TRB, 2003, pp 116-123

TAGS

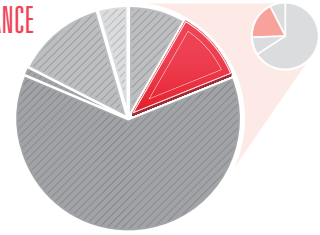
BEHAVIOR CHANGE | TRANSPORTATION | INCENTIVES | WELL-BEING | POLICY

PROVIDE PARKING ALTERNATIVES & CASH-OUT OPTIONS FOR EMPLOYEES

[ANNUALLY] 2.5% OF SHORT-DISTANCE COMMUTERS CHANGING MODES

19.56%

OF 2020 TARGET [740 mtCO2e]



Employers typically subsidize automobile use by providing parking spaces for employees but do not take on responsibility for any costs associated with commuting by other modes, such as transit or bicycle. The City of Ypsilanti, for example, provides downtown parking permits for City Hall employees, which typically costs $200 per pass; many EMU departments similarly cover the costs of employee parking permits, while student commuters pay $200 for fall/winter parking hangtags. A parking cash-out program can be a beneficial alternative method to traditional employee parking programs. The cash-out program makes the cost of parking transparent to the employee, and removes the incentive to drive by offering them the cash value of an unused parking permit, or by allowing them to transfer the value of the permit to another travel mode, such as a transit pass.

EXAMPLES:

The go!pass system is used by over 500 employers in downtown Ann Arbor to offer employees a transit fare benefit as an option to driving and parking. EMU recently offered students discounted Ann Arbor Transportation Authority (AATA) monthly passes as an alternative to buying a parking permit. Both these programs have proven popular.

EXPECTED GHG SAVINGS:

Assuming a modest 2.5% shift of the commuters living within 10 miles of their workplace from driving alone to other modes, 92.5 mtCO2e would be avoided annually.

IMPLEMENTATION COSTS:

Employers who currently pay for employee parking can offer cash-out options or alternative benefits at no additional cost. Employers who own parking spaces and view them as a no-cost benefit to employees might consider this an additional $200 annual cost per employee, if the cash-out value were set equal to the paid downtown or campus parking options.

ADDITIONAL BENEFITS:

Downtown employees (including those at City Hall) who choose a cash-out or alternative benefit clear public parking spaces for downtown business patrons. Similarly, EMU commuters who choose alternative benefits free up parking capacity without new construction costs. Choosing to bike or walk to work rather than driving also carries health and fitness benefits.

PARTNERS & STAKEHOLDERS:

The DDA, City Treasurer and EMU each issue employee parking permits for various lots; they and downtown commercial landlords would be the key actors in an alternative benefits system.

CONSIDERATIONS:

The 2008 survey of downtown Ypsilanti employees found that offering transit benefits would be the single most appealing option to change commute behavior. In order to address other potential concerns about not driving to work, offering alternative commuter benefits works best in coordination with strategies like car-sharing systems and improved visibility of other travel modes.

RECOMMENDED APPROACH:

Provide a discounted AATA pass via the City Treasurer and DDA as an alternative to downtown parking permits. AATA may be able to offer additional discounts for permits purchased by downtown employees, as counter-peak commuters. City Hall can lead by example by implementing a parking cash-out or alternative benefit option for employees currently eligible for parking permits. Other major parking providers such as Washtenaw County and the Key Bank Building may also be approached as potential participants. EMU should continue to promote their transit pass and shuttle options.

TAGS

TRANSPORTATION

INSTITUTIONAL PARTNERS

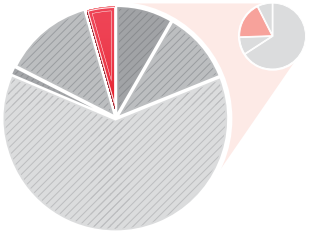
INFRASTRUCTURE

PURSUE IMPLEMENTATION OF TRANSIT MASTER PLAN

[BY 2020]
25% RIDERSHIP INCREASE

8.02%

OF 2020 TARGET [303.45 mtCO2e]



Ypsilanti has shown strong support for transit: AATA figures show boardings in the City of Ypsilanti growing by 20% from 2005 to 2010, despite a decrease in service during that time, and voters overwhelmingly approved funding to support the system in 2010. The recently completed Washtenaw County-wide Transit Master Plan would continue to offer new options for Ypsilanti residents, commuters and students, including additional routes, improved frequency and hours of operation, and new services such as express commuter lines.

EXAMPLES:

As an early implementation step in the Transit Master Plan, AATA implemented service increases on the Washtenaw Avenue route in early 2012 that yielded a 20% increase in ridership on that line within a few months. Expansion of AATA's Night Ride service to the Ypsilanti area also produced a significant increase in use of that service, though these numbers are not broken down by how many started or ended in the city itself. These immediate jumps in transit use following service increase show strong pent-up demand.

IMPLEMENTATION COSTS:

AATA is still working with stakeholders around the county to finalize an implementation program and identify costs for the Transit Master Plan. In addition to rider fares and state and federal funding, implementation will likely require a county-wide or regional funding stream to be approved by voters.

EXPECTED GHG SAVINGS:

Implementation of the Transit Master Plan should support continued ridership growth. Based on recent experience, a further 25% increase in ridership by 2020 appears possible: an additional 160,000 annual boardings within the city, or about 530 daily riders. Added to recent ridership gains, this would yield 303 mtCO2e in reduced emissions.

ADDITIONAL BENEFITS:

Continued increases in transit service will help mitigate congestion on major roads and in downtown and campus parking lots. High-quality transit service is also increasingly being cited as a factor in attracting new residents and businesses.

PARTNERS & STAKEHOLDERS:

A new regional transit agency is being created under Public Act 196 to implement the plan. The City of Ypsilanti will have a seat on the board of this new agency and will need to work with neighboring communities to champion appropriate system improvements by this agency.

CONSIDERATIONS:

Commuter rail service has been under discussion for many years and is currently a top transit priority for city officials and residents, but creation of this service remains very uncertain. One way to advance rail could be to simulate this service through new express, commuter-oriented bus service, in order to demonstrate demand.

RECOMMENDED APPROACH:

Champion creation of the 196 board, establishment of regional funding, and implementation of the Master Plan. Services that support commuting into Ann Arbor, for residents, and into Ypsilanti, for students, should be priorities for implementation.

TAGS

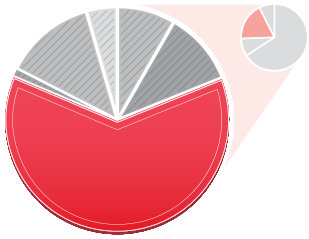
TRANSPORTATION | BEHAVIOR CHANGE | NON-MOTORIZED | INFRASTRUCTURE | EDUCATION

PROVIDE MORE VISIBILITY FOR ALTERNATIVE TRANSIT, INCLUDING BIKING & WALKING PATHS AND BUS ROUTES

[ONGOING] TRANSPORTATION OPTIONS PROMOTED CITY-WIDE

116.29%

OF 2020 TARGET [4400 mtCO2e]



While local governments cannot necessarily change the structure of regional transit systems, municipalities can facilitate the use and adoption of transit and non-motorized modes, including biking and walking. This includes a broad category of activities: cities can market available options, publish bicycle maps, improve signs for bike routes, or provide workshops or other informational material. The use of a survey to understand residents' transportation needs can help create more effective, targeted marketing and programs.

EXAMPLES:

Portland, Oregon's Smart Trips program has reduced single-occupant car trips by 8-13% in the areas of the city that have been targeted.[32] Transportation Riders United (TRU) has offered "Transit 101" workshops in Detroit and its suburbs in past years to teach people how to use the transit system, successfully converting "never riders" to "occasional riders."

IMPLEMENTATION COSTS:

Costs for implementing biking/walking or ridership promotion programs typically cost around $30 per household targeted. Some measures, such as bike/walk maps, are significantly cheaper; others, such as reduced-rate transit passes, are significantly more expensive.

ADDITIONAL BENEFITS:

People who switch from car use to other travel modes can save substantially on travel costs. Reducing the number of vehicles on the road results in less congestion and a reduced need for parking. Additionally, increased walking and biking improves health and fitness.

EXPECTED GHG SAVINGS:

Average GHG savings are about 0.8 metric tons mtCO2e per household, or 4,400 mtCOe city-wide.

PARTNERS & STAKEHOLDERS:

The Ann Arbor Transportation Authority is the key partner to promote transit and is currently rolling out increased transit service within the city and countywide. City of Ann Arbor and Washtenaw County can both assist in establishing and publishing bike routes and maps. Community groups such as Bike Ypsi and the Washtenaw Biking and Walking Coalition could help spread the word about any new initiatives among social networks.

CONSIDERATIONS:

People look for predictability and convenience in their travel modes. To encourage a switch, additional benefits must be highlighted because it can be hard for other travel modes to compete with automobiles on only convenience measures.

RECOMMENDED APPROACH:

Engage community partners in an effort to understand residents' travel needs and develop a marketing plan to meet those needs. Provide bicycle maps, designated routes, and other wayfinding mechanisms to make the transition to bike commuting easy and convenient. Special attention should be paid to the connections between EMU's campus and Ypsilanti's downtown and Depot Town areas, encouraging students to explore the surrounding city. The existing Non-Motorized Advisory Committee should lead this effort within the city.

32 | *"Smart Trips." Portland Bureau of Transportation. Web. 25 April 2012. <http://www.portlandonline.com/TRANSPORTATION/index.cfm?c=ediab>.*

TAGS

TRANSPORTATION NON-MOTORIZED BEHAVIOR CHANGE

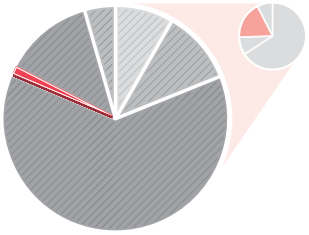
CREATE AND PROMOTE BIKE-SHARING AND CAR-SHARING PROGRAMS

Vehicle-sharing programs allow users to rent bikes or cars by the hour, increasing transportation access and making it easier to get where they need to go. Creating a bike-sharing or car-sharing program in Ypsilanti would supplement existing bus service, allow more residents to go without cars, and encourage travelers to take advantage of existing non-motorized transportation networks while spending time in Ypsilanti.

[ANNUALLY] 2100 DRIVERS USE BIKESHARING NETWORK

2.18%

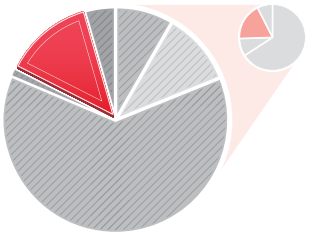
OF 2020 TARGET [82.4 mtCO2e]



[ANNUALLY] 250 DRIVERS JOIN CARSHARING NETWORK

24.05%

OF 2020 TARGET [910 mtCO2e]



EXAMPLES:

M-Bike.org suggests that our region should use Nice Ride Minnesota—the twin cities' bike share program—as a model. Users can pick up a bike from one of 75 kiosks over a 7.75 square mile service area. Rental rates are charged by the hour, and users must pay to subscribe for the day, month or year. The program is managed by a nonprofit. Nice Ride MN was founded through a partnership between local government, foundations, and local businesses.

Zipcar operates 20 shared cars on the University of Michigan campus and 10 more in downtown Ann Arbor. Zipcar estimates each shared car takes 15-20 cars off the road. Hertz started an hourly car rental service at Eastern Michigan University during the Fall 2011 semester, with two cars available on campus.

IMPLEMENTATION COSTS:

University bike rental programs are typically funded by grants and rental fees. Initial costs include bike and rack purchase, storage, maintenance and management hiring. A bike share program that covers EMU's campus, Ypsilanti's historic downtown and Depot Town could be implemented with initial costs of $492,000 and an annual operating cost of $229,000.[33] Annual operating costs could be recouped through fees for subscription or bike use.

Zipcar typically requires a "sponsor" to guarantee a minimum monthly revenue for each car; in Ann Arbor, the DDA and University of Michigan play this role. The Hertz On-Demand service does not have this requirement, but provides vehicles based only on rental revenue estimates. This makes implementation effectively free to the city or university, but also limits the local ability to steer development of the system.

EXPECTED GHG SAVINGS:

Bike Detroit notes that a 4 mile trip by bicycle will keep 15 pounds of pollutants out of the air. Using the same ridership projections as Nice Ride which estimates 5% of resident use, 3% local employee use, and 7% student use, bike sharing could alleviate 23,007 vehicle miles travelled annually in Ypsilanti. That equates to 10.3 mtCO2e in savings annually.

National experience shows a typical car-sharing user reduces vehicle miles traveled (VMT) by 44%,due to adoption of more effective travel habits, and estimates a market potential of up to 10% of residents aged 21 and up, with a particular growth potential for university campuses. Based on SEMCOG estimates for trips starting or ending in the city, each 1% of residents over 21 who become car-sharing users (130 members) would reduce driving by 138,000 miles annually, preventing 66 mtCO2e in emissions. Considering the large campus and near-campus populations and growing downtown resident base, a modest 2.5% adoption (325 active users) should be possible by 2020, yielding 165 mtCO2e in emissions reductions and 345,500 fewer miles driven.[34]

ADDITIONAL BENEFITS:

Encouraging bike use improves resident quality of life due to increased exercise. Both bike-sharing and car-sharing decrease the amount of cars on the road, limiting the amount of traffic congestion and traffic delays—saving time and gas. Fewer cars commuting to campus also reduces the need for parking spaces.

33 | This calculation uses Nice Ride's cost per bike and formulas for projected number of subscribers, and assumes that 1 bike will cover 15 subscribers.

34 | In spring of 2012 (before students left campus for the summer), reservations for Hertz cars on EMU's campus ranged from roughly 150-200 per month. This does not account for unique uses, so 325 is a reasonable but reachable goal.

PARTNERS & STAKEHOLDERS:

More and more students across the country are urging their universities to provide bike rentals on campus to encourage safer, faster, cheaper, more environmentally friendly means of traveling to class and around the city. Eastern Michigan University would be a great place to implement these practices. Oakland University already runs a free bike share program—EMU could meet with staff there. Ypsilanti Cycle and BikesEMU should also be approached as partners.

CONSIDERATIONS:

The City of Ann Arbor may soon be adopting a bike sharing program. Once this effort gets underway (if Ypsilanti's does not begin before FY2013, which is when Ann Arbor's is slated to begin), Ypsilanti can learn from this neighboring city.

RECOMMENDED APPROACH:

Partner with Eastern Michigan University to create a bike-sharing program and to expand the car-sharing network both on-campus and downtown. The programs can originate at the university, targeting students as the primary users with the source of information available online and at new student orientation. University faculty and employees, and downtown employees, should be targeted with information on bike- and car-sharing options as a support for car-free commutes; landlords and neighborhood associations can provide residents with information on car-sharing as a cost-saving alternative to a second household car.

TAGS: LAND USE | ECONOMIC DEVELOPMENT | WELL-BEING | COMMERCIAL INDUSTRIAL | POLICY | RESIDENTIAL

PRIORITIZE INFILL DEVELOPMENT OPPORTUNITIES IN MASTER PLAN UPDATE

RE-EVALUATE PARKING STANDARDS:

The City's zoning ordinance requires large amounts of parking for new and expanded developments; not only does this reinforce high-emissions automobile travel habits, but it also poses a financial challenge for many of the small developers working in the city. Significantly reducing the parking requirements could both support other transportation modes as well as ease costs on businesses and developers.

CONSIDER THE ROLE OF "NEIGHBORHOOD" COMMERCIAL USES:

While the City's B1 zoning district is named "neighborhood commercial", its primary application is on Washtenaw Avenue, which has a decidedly non-neighborhood feel. This district should be evaluated and potentially updated for use in supporting single-parcel "corner store" uses in actual neighborhoods, such as the convenience store at the corner of East Forest and Prospect or even a more full-service grocery store.

TACKLE TRANSIT ORIENTED DEVELOPMENT:

The City has worked with neighboring communities to identify potential improvements along Washtenaw Avenue that would support additional development, an improved environment for walking and biking, and increased transit service between Ypsilanti and Ann Arbor. This effort should be supported by specific zoning ordinance updates to enable the desired development of Washtenaw as both a transit corridor and an amenity for surrounding residential neighborhoods. Similarly, while the City has aggressively pursued the reinstatement of Amtrak and commuter rail service in Depot Town, it should conduct specific planning to encourage new private development in the area that can take advantage of future rail service.

Infill development prioritizes development on vacant or underused land in existing cities and urban areas over construction in outlying areas. In addition to supporting lower GHG behaviors, as mentioned in the introduction to this section, infill development makes financial sense to communities, increasing tax yield over a given area: the State of Michigan's 2009 Climate Action Plan identifies land use planning measures as the single most cost-effective means to reduce greenhouse gas emissions. While development policies can be responsible for the greatest degree of change in a community's energy consumption, this change tends to happen slowly and incrementally.

Additionally, most of the energy savings yielded by infill development are not due to behavior changes of people already in town. The majority of energy savings result from households that choose to locate in the city and have access to transit and non-motorized travel options, rather than locating in auto-dependent outlying areas. The reductions therefore can't be counted against the city's baseline emissions—they may actually result in an increase in emissions produced by city residents, but a net decrease at the regional scale.

While the City of Ypsilanti is no stranger to encouraging infill, it could capitalize on additional opportunities. These suggestions should be fully developed during the upcoming revision of the city's Master Plan.

UNDERTAKE SITE-SPECIFIC REDEVELOPMENT PLANNING:

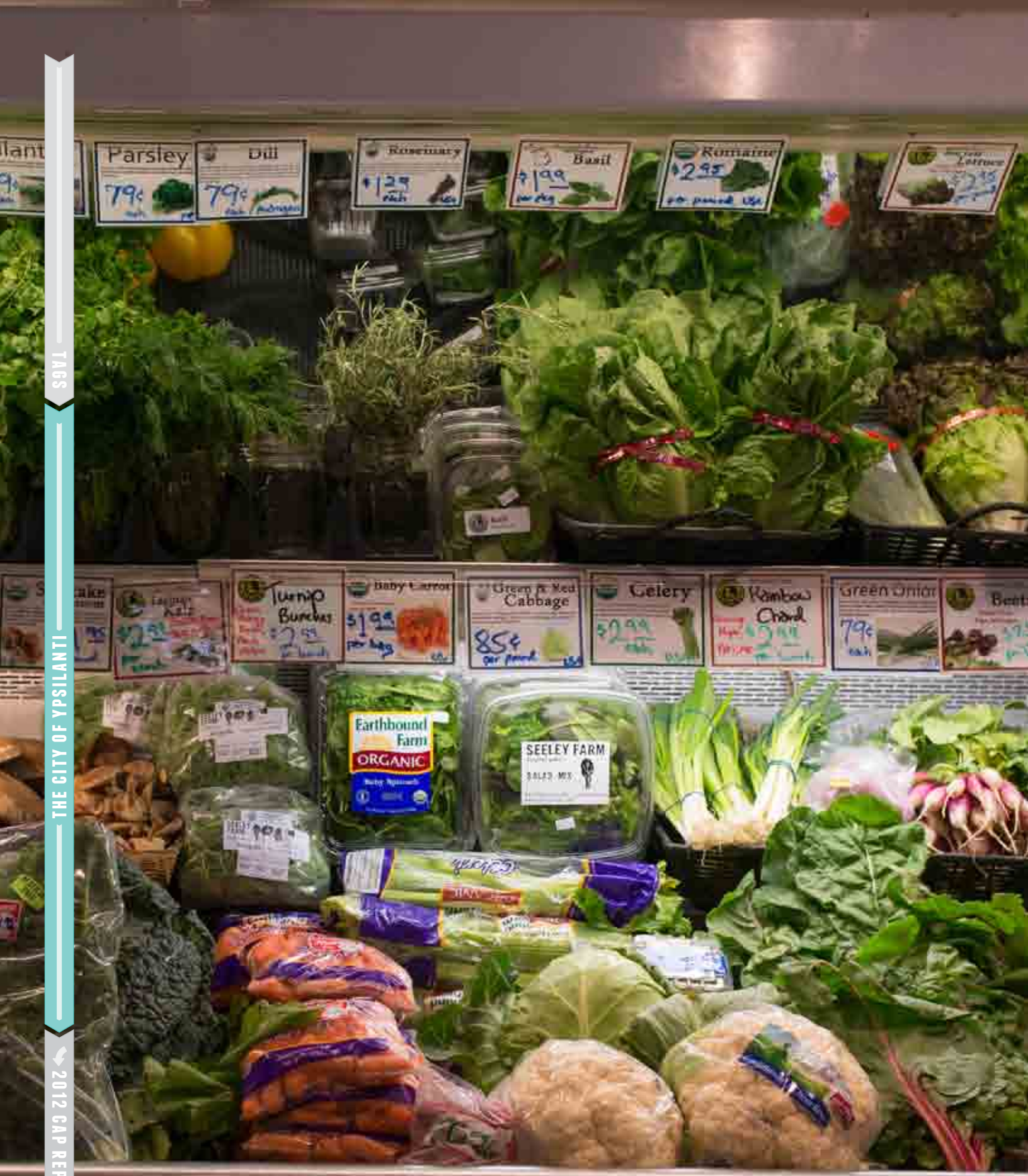
Ypsilanti can provide the best environment for infill development by identifying individual priority sites and specifically planning for development of those sites. Priority sites for development can include both city-owned properties and vacant private properties with willing owners. An appropriate redevelopment process will ensure that sites have a vision shared and supported by the public, appropriate zoning is in place, available incentives are specifically identified, and the sites are being actively marketed. Ypsilanti has done some of these things, such as establishing districts for obsolete property and industrial facility incentives, and should continue these efforts. The city can look to the redevelopment ready sites best practices outlined by MEDC's "Redevelopment Ready Communities" program for additional guidance.

FILL THE "MISSING MIDDLE" SEGMENT OF THE HOUSING STOCK:

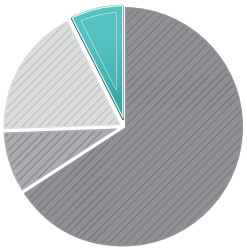
While some neighborhoods, such as the Historic South Side, appear to have a stable mix of single-family houses and 2- to 3-unit apartment houses, the city's zoning predominantly supports either strict single-family housing or large apartment complexes. Revisiting the topic of small "accessory dwelling units," encouraging rehabilitation of historic carriage barns and other tools can bring more people to Ypsilanti neighborhoods, supporting property values and taking advantage of the walkable, transit-served downtowns, without the impact of the larger apartment building. This is particularly an opportunity within the historic core, where large homes now typically house much smaller families than they once did.

PLAN FOR COMMERCIAL USES IN HURON RIVER DRIVE AREA:

More than 2,500 people live in the apartment complexes around Leforge Road and Huron River Drive, but the area virtually lacks neighborhood amenities for these residents and encourages driving. Planning for additional uses in this area that serve these residents could reduce automobile necessity, strengthen these residents' connection to the Ypsilanti community and also capture business from on-campus residents and campus commuters. Uses such as coffee shops and small-format grocery stores have been identified as desires during past planning work, though land availability will be a challenge for any substantial commercial use.



Culture change describes how Ypsilanti residents interact within their community, *and how their decisions impact GHG emissions. This picture from the Ypsilanti Food Co-Op reminds us that even individual behaviors surrounding food can emit GHGs and impact Ypsilanti in myriad other ways.*



3.05%

OF 2020 TARGET

[CULTURE CHANGE STRATEGY REDUCTIONS]

RECOMMENDED EMISSIONS-REDUCTION STRATEGIES

CULTURE CHANGE

Individual behavior is one of the most important ways we impact greenhouse gas emissions, but it is also one of the most difficult to measure or change. While many Ypsilanti residents already recognize the importance of living in a way that's oriented around sustainability concerns and around reducing greenhouse gas emissions, they feel the majority of citizens have not heard of or do not fully understand these concepts. In order to relate to these issues and change behavior to incorporate the concepts into daily life, Ypsilanti residents need to understand sustainability and the actions they can take.

This section on culture change attempts to begin the difficult task of reorienting community thought and practice around climate change, the natural environment, and triple-bottom-line sustainability. We seek to achieve 5% of our total greenhouse gas reduction target through these strategies, or 1,891 mtCO2e by 2020.

Based on community feedback, we have also set a number of qualitative goals for the future:

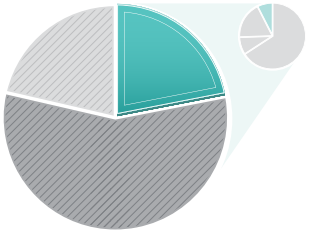
- Ypsilanti celebrates efforts to reduce greenhouse gas emissions and circulates information about sustainability and reducing greenhouse gases to residents. Community members understand the importance of climate action and the ways they can impact climate change, individually and collectively.
- In partnership with the community and municipal plans and priorities, local schools have refocused education towards sustainability.
- Ypsilanti works in collaboration with surrounding communities and the metro Detroit region to achieve broader changes.

TAGS: ENERGY EFFICIENCY | EMU | BEHAVIOR CHANGE | COMMUNITY BUILDING | INSTITUTIONAL PARTNERS

ENCOURAGE CONSERVATION THROUGH ENERGY COMPETITION

[ONGOING]
25% RIDERSHIP INCREASE

13.20%
OF 2020 TARGET [249.69 mtCO2e]



Given that the City of Ypsilanti is home to Eastern Michigan University, leveraging college rivalry can be a powerful tool to leverage energy savings both within the university and the community. A non-university Ypsilanti competition could motivate the community to improve on past performance. The main key to a competition is extensive marketing and promotions, along with a web presence, key giveaways such as efficient light bulbs, and cultivating peer to peer networks.

EXAMPLES:

The "Take Charge Challenge" in Kansas pitted 16 different towns (some with universities) against one another in a 9 month long challenge to save energy. Total savings were $2,341,025 in energy costs and 22 million pounds of CO2 emissions.[35]

IMPLEMENTATION COSTS:

Costs are around $2 to $5 per person contacted, which would equate to $50 to $100/ton of GHG reduction. Of course, this can vary greatly depending on the depth of contacts, availability of volunteer labor, and other factors.

EXPECTED GHG SAVINGS:

Each person contacted can be expected to save about 55 kWh during the time of the competition, or about 1.75 lbs of CO2e. There are many questions about the longevity of the behavior changes, but the changes done within the competition can be a gateway to further improvements.

ADDITIONAL BENEFITS:

Energy savings for students and residents of Eastern Michigan University and Ypsilanti.

PARTNERS & STAKEHOLDERS:

Eastern Michigan University would be a prime partner in this endeavor, as shown in the Kansas competition, university rivalries motivated more energy savings than towns without universities. Within the university and the city, networking with as many existing organizations as possible would help spread the words. The challenger cities would also be essential partners. Competition could also be coordinated through neighborhood associations or even commercial groups. Residents are able to rent Kill-A-Watt EZ electricity usage monitor from the Ypsilanti District Library, so tracking resources are readily available.

CONSIDERATIONS:

One main consideration would be fostering change that "sticks" and articulating the energy conservation message while promoting the rivalry. Many people, students especially, may be motivated to "Beat State," but the challenge will be in relaying the actual reasoning behind the conservation competition. The strategy could be first tested by the university or by select neighborhoods and then expanded city-wide.

RECOMMENDED APPROACH:

Work with community stakeholders to initiate an energy competition. The University and City can partner together to challenge another city and university to an energy reduction competition.

35 | "Take Charge Challenge with Efficiency Kansas," Take Charge Kansas, http://www.takechargekansas.org/Site_Data/Sub_Pages/Home.php, accessed May 15, 2012.

TAGS

EDUCATION | POLICY | COMMUNITY BUILDING | EMU | WELL-BEING | INSTITUTIONAL PARTNERS

COMMUNITY SUSTAINABILITY LIBRARY

Ypsilanti stakeholders are knowledgeable about and interested in issues of climate change, energy use and environmental sustainability. Ypsilanti residentsare willing to take on individual and community action to support local emissions reductions, but would benefit from a resource library: a shared space to hold collective knowledge on these topics and catalogue community resources.

Energy Efficient Rentals

EXAMPLES:

The Green Garage in Detroit is home to the Urban Sustainability Library, which hosts, produces and disseminates information on how "people and organizations [can] make more sustainable choices."[36] Their physical and online library contains books and studies, but also displays current projects and facilitates community conversations.

IMPLEMENTATION COSTS:

This library can be created with limited monetary expense, though it will require a large time investment from stakeholders. Costs may include staff and volunteer time as well as the physical or online space for the library.

EXPECTED GHG SAVINGS:

Compilation of this resource library will not, in itself, result in GHG emissions reductions. It may inspire future reductions, but these are difficult to quantify.

ADDITIONAL BENEFITS:

As a community resource, the library can continue to collect best practices, new ideas and possible emissions reductions strategies after the climate plan has been adopted and the process is complete. It can serve as a new communal, coordinating space for sustainability in Ypsilanti and lead to individual and community actions to reduce missions.

PARTNERS & STAKEHOLDERS:

The Ypsilanti District Library and Eastern Michigan University can act as hosts, curators and resources for the strategy library. They should be accompanied by the many community groups who have a stake in either pulling from or putting resources into the library, including Transition Ypsilanti, local nonprofits and neighborhood associations.

CONSIDERATIONS:

Simply compiling existing community resources will lead to a substantial base of knowledge for the library. The difficult part is curating the collection, ensuring it is kept up to date and usable by the average person. Outreach strategies must also be built into the creation of the library to publicize its existence and begin the dialogue that is at the heart of this community space.

RECOMMENDED APPROACH:

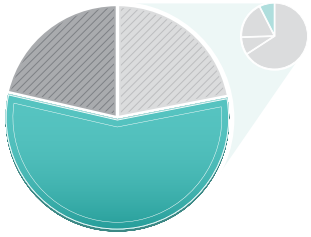
Local experts and the EMU community can create an Ypsilanti sustainability library. The City will be able to pull from resources compiled in the process of creating this climate action plan as well as in a collaborative and ongoing research effort with EMU students. A plan for the continued existence of the library should be developed in partnership with community stakeholders.

13 | *Urban Sustainability Library. Green Garage, 28 Feb. 2012. Web. 21 May 2012. <http://greengaragedetroit.com/index.php?title=Urban_Sustainability_Library>.*

TAGS: ENERGY EFFICIENCY | RESIDENTIAL | BEHAVIOR CHANGE | EDUCATION | WELL-BEING

RESIDENTIAL ENERGY EDUCATION

[ANNUALLY]
100 HOUSEHOLDS
38.20%
OF 2020 TARGET [640 mtCO2e]



Teaching residents to use low- and no-cost techniques for saving energy in their home is one of the most cost-effective ways to reduce energy use and resulting emissions on a community scale. This can be done through a workshop setting or a home visit. Workshops are the less expensive option, but corresponding savings are less as well.

OPTION 1: IMPLEMENT A SERIES OF ENERGY SAVING WORKSHOPS IN DIFFERENT VENUES.

Use these workshops to communicate a basic level of understanding of home energy issues to residents, such as how to read your energy bill, sealing doors and windows and turning off appliances when not in use.

Examples: The City of Lathrup Village held a workshop to educate its residents on how to save money in their homes.[37] The Southeast Michigan Regional Energy Office put together a video case study that can be found at this link: http://bit.ly/JLU8pc. The City of Ypsilanti's Historic District Commission has in the past hosted workshops by State Historic Preservation Office (SHPO) staff and EMU Historic Preservation students on historic home maintenance—this topic could be expanded to include energy-specific historic home workshops.

Implementation costs: Workshops can be conducted by local non-profits for about $500 each, either as stand-alone programs or as part of an existing, funded projects such as home weatherization programs or municipal energy efficiency upgrades.

Expected GHG savings: Based on the past experience of the Southeast Michigan Regional Energy Office, households can expect to save .8 mtCO2e from implementing measures outlined in the workshop format. Assuming an average of 25 participants per workshop and 4 workshops per year, these workshops could reach 100 households, reducing carbon emissions by 80 mtCO2e annually. By 2020, expected emissions savings add to a total 640 mtCO2e.

OPTION 2: IMPLEMENT A COMPREHENSIVE PROGRAM THAT ENCOURAGES ALL RESIDENTS OF THE CITY TO EITHER ATTEND A WORKSHOP OR HAVE A HOME VISIT, OR BOTH.

This would require both funding and an outside entity to administer the program.

Examples: The BetterBuildings for Michigan (BBFM) program is conducting consumer education, energy audits and direct installation of energy efficiency measures in Ypsilanti over the course of 2012.[38]

Implementation costs: A residential energy audit and education program will cost approximately $1000 per household to implement. This cost may be reduced or covered by programs such as BBFM or DTE incentives.

Expected GHG savings: Similar programs have achieved an approximate 1.2 mtCO2e reduction per house in yearly GHG emissions.

37 | "EECBG Case Study #10: Resident Education." WARMTraining.org. N.p., n.d. Web. 21 May 2012. <http://www.warmtraining.org/gov/pdf/EECBG%20Case%20Study10_ResidentEducation.pdf>.

38 | BetterBuildings for Michigan. Southeast Michigan Regional Energy Office, n.d. Web. 22 May 2012. <http://regionalenergyoffice.org/betterbuildings/>.

FOR ALL OPTIONS:

CONSIDERATIONS:

The City of Ypsilanti should leverage the federal resources of the BetterBuildings for Michigan program during 2012 to get as much federal funding as possible to fund energy education and improvements for Ypsilanti housing stock. Any educational initiative should publicize the energy and money savings achieved by participants. Deliberately communicating benefits is key to the success of this strategy.

ADDITIONAL BENEFITS:

WARM Training Center, BetterBuildings for Michigan, Clean Energy Coalition and DTE offer relevant programs. EMU's historic preservation program or Washtenaw Community College's building trades programs may also be able to offer workshops for residents.

RECOMMENDED APPROACH:

Work with local universities and nonprofit organizations to expand educational workshops and resources. Past leveraging of EMU and SHPO offerings for historic property owners can be expanded to include a focus on energy efficiency in historic properties—a substantial share of Ypsilanti's building stock. BBFM outreach efforts during the course of 2012 should increase general awareness of energy-saving behaviors, and non-profit partners can build on this with future targeted educational efforts.

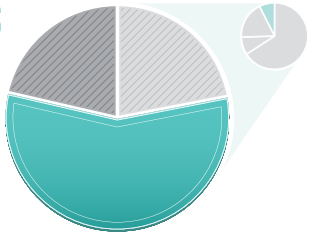
TAGS: RESIDENTIAL | COMMUNITY BUILDING | EMU | INCENTIVES | INSTITUTIONAL PARTNERS

ENCOURAGE PUBLIC EMPLOYEES TO LIVE IN YPSILANTI

[ANNUALLY] 5 PUBLIC EMPLOYEES MOVE INTO YPSILANTI

12.69%

OF 2020 TARGET [240 mtCO2e]



Residents frequently express a preference for municipal and other public employees to live in the city where they work. While requiring residency as a condition of employment is not legal, public employers can provide incentives to promote residency. The Eastern Leaders Group (ELG) and EMU successfully launched a new incentive in 2012 for new staff and faculty to live within Ypsilanti: a forgivable loan towards a down payment or related housing expense. Similar programs in Detroit have proven very successful. All such programs have the twin goals of supporting the local housing market and encouraging commuters to invest—emotionally and monetarily—in the community. However, these programs also support reduced GHG emissions by offering the participants a better ability to use non-car travel options, both to commute to work and to meet other needs.

EXAMPLES:

ELG and EMU expect the LiveYpsi program to have its first home closing in the summer of 2012. The program could be easily extended to other employers after the pilot phase at EMU.

IMPLEMENTATION COSTS:

Detroit's Live Midtown and Live Downtown programs offer $20,000 incentives; LiveYpsi provides a $7,500 incentive, equivalent to a 5-10% down payment on most Ypsilanti home purchases.

ADDITIONAL BENEFITS:

In addition to the intangible benefits usually cited for public sector employee residency—greater investment in the community—such a program can also have indirect fiscal benefits for the community. By incentivizing new buyers, this strategy can contribute to faster recovery of home prices. More importantly, if targeted at foreclosed homes, it can help mitigate the estimated 1-2% loss of property value caused to every property within a block radius of a foreclosure.[39]

EXPECTED GHG SAVINGS:

Each employee who moves from an average 25 mile one-way commute to an in-town commute will prevent approximately 6 mtCO2e annually.

PARTNERS & STAKEHOLDERS:

Expanding ELG's program would be the easiest way to implement this strategy. Washtenaw County and YPSD may be approached to offer residency benefits to their employees.

CONSIDERATIONS:

Offering direct cash incentives to public employees is politically difficult, and substantial work needs to be done to define the fiscal benefits of the strategy for the city and set the right level of incentive. To reduce the cost of implementing such a program, it would be most easily introduced at the same time that employee concessions are being sought, as part of the overall package. Since the City and other local public employers make very few new hires, the incentive might be offered to all employees, rather than only to new hires.

RECOMMENDED APPROACH:

Consider a public employee residency incentive, in the form of a forgivable loan for down payment assistance for purchase of foreclosed homes. Defining the fiscal benefits of the program will be the key to successful implementation. ELG and EMU should continue to pursue additional funding sources for the LiveYpsi program, such as MSHDA, the Community Foundation and other foundations, and work to expand the program to municipal and other employees."

39 | Immergluck, Dan, and Geoff Smith. "There Goes the Neighborhood: The Effect of Single-Family Mortgage Foreclosures on Property Values." June (2005). Web. 21 May 2012. <http://ftp.nw.org/network/neighborworksprogs/foreclosuresolutions/reports/documents/TGTN_Report.pdf>.

TAGS

PROMOTE CITY SUCCESSES TO LEAD BY EXAMPLE

The City of Ypsilanti has already taken on a number of energy-saving, "green" initiatives. By better publicizing and educating citizens around these efforts, they can impact the actions of their constituents. The government should create a coordinated strategy to educate residents about the steps that staff, officials and institutions take to create a more sustainable city. Leading by example requires not only better communication, but a visible presence in the community.

EXAMPLES:

The City of Southgate created a video case study of the solar panels installed on its city buildings, featuring the mayor. This video ran on the local access channel, and the City is talking about using it, in conjunction with mayoral appearances, as an education and outreach tool. [40]

IMPLEMENTATION COSTS:

The City of Ypsilanti may need to devote staff time to personal outreach, written communications and social media updates. Costs other than time, though, can be minimal to none.

EXPECTED GHG SAVINGS:

This strategy is geared towards the publication of GHG emissions reductions rather than achieving new reductions, though it may inspire citizen action.

ADDITIONAL BENEFITS:

The City can lead a community-wide resurgence in the sustainability movement and contribute to education efforts.

PARTNERS & STAKEHOLDERS:

City leaders, including appointed and elected officials and staff, must commit to in-person participation and more intentional, coordinated communications. They will need to work with local news agencies, both print and online, and community groups to reach citizens. Solar Ypsi is already reporting the city's solar power generation—this can compose part of the city's outreach and provides a model for further efforts.

CONSIDERATIONS:

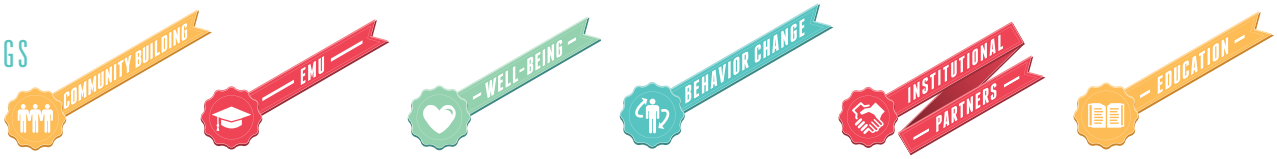
Communications and outreach around sustainability should be part of a greater institutional culture of openness in government operations. The city currently appears to lack an adopted or understood overall communications and outreach plan. Low cost methods of public outreach include social media, public events such as the Heritage Festival or the Mayor's State of the City, or the incorporation of energy and sustainability into existing reporting such as the state-required dashboard.

RECOMMENDED APPROACH:

Increase communications and citizen outreach around sustainability, publicizing efforts and providing information on how citizens can get involved or replicate green initiatives. These efforts should be part of a broader communications strategy by the city, rather than a standalone effort, in order to present energy and sustainability concerns alongside economic development, budgetary, and other information. This overall strategy should consider the role of the city's recently updated webpage and Facebook presence alongside more "traditional" media and outreach work.

40 | Watch the full video at this link: http://www.youtube.com/watch?v=7pAVV4LJYwo&list=PLE5A3534EF7B9E14C&index=7&feature=plpp_video

TAGS



INCLUDE STEWARDSHIP, ENGAGEMENT & SUSTAINABILITY EDUCATION IN LOCAL SCHOOLS

The residents of Ypsilanti have expressed a desire to teach students in grades K-12 about how each person can make sustainable choices each day to impact the future. The EPA agrees that the future of environmental education lies in teaching the concepts of sustainability and stewardship through youth programs and provides information on how schools can get more involved.

EXAMPLES:

The EPA encourages K-12 educators to join the "SustainK12 listserve" which allows for collaboration on strategies that implement sustainable practices and lessons in their teaching plans. The EPA also links to various resources on environmental education curricula.[41] The Sustainable School Project located in Vermont provides examples of lesson plans suitable for grades 3-8 on a number of subjects. They also provide the Sustainable Schools Project Starter Kit, which outlines three modules for teachers and students to complete in about two days. [42] The Ecology Center in Ann Arbor provides workshops that are aligned with Michigan Grade Level Content Expectations. Their classroom programs and field trip options are fun for students and teach valuable lessons about the environment. [43]

IMPLEMENTATION COSTS:

Implementation costs are relatively low and should only require training educators on relevant subjects as well as the purchase of any materials that might be needed for class projects. With the number of project examples available, the schools can design a curriculum that fits their budgets while still making an impact on the student body.

EXPECTED GHG SAVINGS:

Including sustainability education in school curriculum will not, in itself, result in GHG emissions reductions, but will support the implementation of other strategies the community undertakes. Educating schoolchildren sets the stage for a more sustainable future.

ADDITIONAL BENEFITS:

Students learn about sustainable life choices early and have the chance to make a larger impact throughout their lifetimes. It is also likely that students will bring home what they learn, encouraging parents to change their own behaviors.

PARTNERS & STAKEHOLDERS:

Ypsilanti Public Schools and any local charter or private schools should be the primary parties in this effort. Ypsilanti is lucky to have local sustainability resources such as Creative Change Educational Solutions, Growing Hope and Transition Ypsilanti, that the city can reach out to for support in encouraging the local schools to include sustainability efforts to the curriculum. The city would benefit from engaging these experts and local teachers from K-12 schools, especially Central Gardens Middle School, Washtenaw Community College and Eastern Michigan University when meeting with the school board to discuss implementation methods.

CONSIDERATIONS:

The city may not have much control over the Ypsilanti public school system curriculum. The success of this strategy relies on a positive relationship between the city, the school board and other local educational institutions.

RECOMMENDED APPROACH:

Utilize the community's experts to gather support for adding sustainability education to the curriculum in local K-12 schools. There are many resources and ready-made lesson plans that can be added to existing school practices. The Eastern Michigan University community and local schoolteachers and parents would serve as valuable stakeholders to lead this strategy.

41 | *"Teaching Stewardship and Sustainability." US EPA, n.d. Web. 22 May 2012. <http://www.epa.gov/region8/ee/teachingsustainability.html>.*

42 | *Sustainable Schools Project. Shelburne Farms, n.d. Web. 22 May 2012. <http://www.sustainableschoolsproject.org/>.*

43 | *Ecology Center. n.d. Web. 22 May 2012. <http://www.ecocenter.org/>.*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CLIMATE ACTION PLANNING
IMPLEMENTATION

The strategies detailed in this plan are considered to be immediate or short-term strategies: actions that can be implemented with existing tools and partners over the next 3-5 years, and which will yield net cost savings or other benefits under current conditions. Strategies are summarized in this section based on the City's role in implementing them. Some require direct capital investments by the city; others are changes to policies or ordinances; still others must be taken up by community members and will involve little direct involvement by City Hall. The strategies included here are by no means the only ones possible, and other opportunities may arise that should also be pursued and celebrated.

Together, the recommended strategies should yield about 37,000 mtCO2e of GHG reductions in 2020, or about 2 mtCO2e per capita. This plan generally errs on the side of conservative estimates of emissions savings and provides a limited number of recommended strategies, acknowledging the constrained role of city government in achieving community-wide change. In order to meet emissions-reduction goals, residents, community groups and other business and nongovernmental stakeholders must take on responsibility for their own actions and for those of their neighbors. The City of Ypsilanti may convene stakeholders, model action and inspire change, but will not be the lead actor in many of the most impactful emissions-reduction strategies.

EVALUATING AND COMMUNICATING PROGRESS

Because the focus of the plan is on near-term opportunities, some evaluation can take place immediately or on an annual basis. The plan as a whole should be evaluated after about five years to select a new set of action steps. Opportunities for evaluating and reporting progress include:

CONTINUOUSLY:

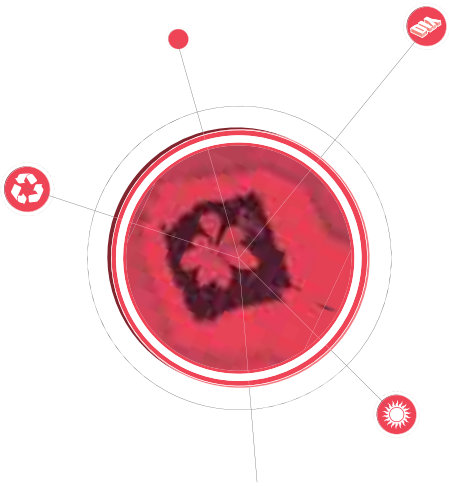
The city and its implementation partners have numerous channels available for communicating efforts as they happen. Social media such as the city's Facebook page and regular updates on a dedicated subpage of the City's homepage are especially suited for communicating implementation steps at launch, completion, and as they produce positive results. This almost-instant communication is especially important for action steps that require broad public awareness or participation in order to have significant impacts.

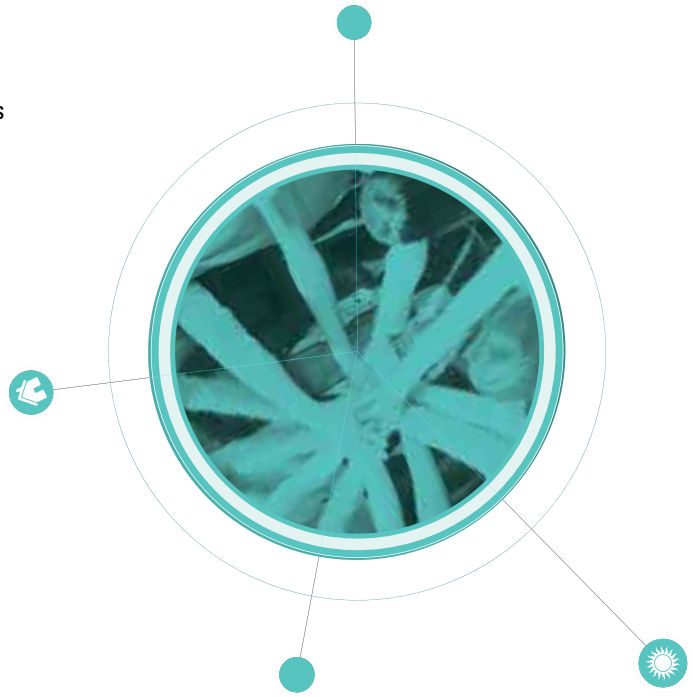
ANNUALLY:

Existing communication tools can be used to report on progress from year-to-year, as well as to remind community members of ongoing efforts. The Mayor's State of the City address provides an opportunity to report city successes and recognize the efforts of community members. Information on programs or initiatives available to individual property owners could be provided within annual tax bills or water bills. Direct energy and cost savings by the city should be compiled from utility bills annually and reported on the local dashboard required by the State's Economic Vitality Incentive Program.

LONG-TERM:

This entire plan should be evaluated in about 5 years to quantify community-wide trends in energy use and greenhouse gas emissions, and to comprehensively review successes and setbacks. By this point, most of the relatively easy, low-cost improvements to municipal operations and facilities management should be completed, and the city's actions are likely to be more indirect, with a greater focus on items like land use. As a result, maintaining a dedicated climate plan may be less important than incorporating any next steps into the city's master plan. Long-term evaluation of the climate plan should be coordinated with a 5-year update of that document.





FUNDING CHANGE: TOOLS AND OPPORTUNITIES

While many of the strategies recommended lead to significant cost savings for residents, businesses and City Hall, upfront implementation costs are still an issue in the city's current fiscal condition. Several options are possible to fund improvements.

FEDERAL TAX INCENTIVES:

Private sector investments in energy efficiency measures may qualify for various federal tax incentive programs, reducing the effective cost. For example, the Business Energy Investment Tax Credit can be used to offset up to 30% of the capital costs of solar panels, wind turbines and similar measures installed by private businesses, and is expected to be available through 2016. The Historic Rehabilitation Tax Incentive can be used to offset up to 20% of the cost of appropriate renovation costs on buildings within the Ypsilanti Historic District. This incentive may cover lighting upgrades, weatherization, window and air-sealing work, and similar measures for commercial properties. DTE offers incentives for both commercial and residential properties, including rebates for energy efficiency measures and purchase of renewable energy credits (RECs) for solar photovoltaic installations. DTE funding may be used in tandem with tax incentives. All such incentive programs require documentation, and property owners are encouraged to research them carefully before undertaking projects.

VOLUNTARY CONTRIBUTIONS:

Some projects may find community support through voluntary contributions. Ypsilanti has already had success with this approach around the Solar City Hall project, raising $1,000 in grant matching funds through donations. A donation program is most appropriate for projects that have only indirect financial benefits but that are highly visible or provide benefits in the form of quality of life or pride of place. Efforts like planting street trees, raising matching funds for major bike/walk projects, alternative energy pilot projects or developing a community sustainability library are most likely to fall into this category. For a voluntary contribution program to work, it should have a clearly stated purpose for the funds. The city might consider asking a trusted third-party organization, such as the community foundation, to serve as fiduciary. Contributions could include structures such as monthly or annual "subscriptions" or a carbon offset based on the donor's driving patterns or utility bills.

STATE AND FEDERAL GRANT FUNDING:

The largest energy-specific grant opportunities in recent years may or may not recur in the future: the Federal Energy Efficiency and Conservation Block Grants (EECBG), which were part of the federal stimulus program, and municipal grant programs by the Michigan Public Service Commission are not funded in 2012. Other recurring grant programs may be applicable to implementation of this plan, however. Michigan DEQ's Community Pollution Prevention grants, available annually, can often be used for capital projects related to air quality, which may include energy and GHG emissions reductions. Transportation funding such as Congestion Mitigation and Air Quality (CMAQ), Urban Safety, and Transportation Enhancement (TE) may support a variety of transit or non-motorized transportation efforts, and the city successfully leveraged these funds in the past.

DDA TIF FUNDING:

In the past few years, the Ypsilanti DDA successfully used direct matching grants to help property owners make facade improvements and other capital investments. This program could be explicitly extended to cover energy efficiency or alternative energy projects; these projects are within the DDA's mission by helping reduce business operating costs. The DDA could also undertake public infrastructure improvements with its TIF funding, including streetlight upgrades, street tree planting, or shared geothermal well installation in coordination with future parking lot resurfacing work.

PROPERTY ASSESSED CLEAN ENERGY (PACE):

A PACE program provides private property owners with affordable financing to make energy related improvements, with payments made over time in the form of an assessment on the property. Because the loan is attached to the property, it is considered lower risk than a loan to an individual, keeping defaults and financing costs low. Additionally, the cost savings from the energy efficiency improvements often cover the costs of the payments over time. A PACE program requires the backing of a municipal entity through issuance of bonds: the City of Ypsilanti is unlikely to undertake this, due to the community's small size and existing debt load, but the city can take advantage of a regionally pooled PACE program currently being created by the Regional Energy Office.

REVOLVING LOAN FUND:

The City of Ypsilanti has set aside $250,000 from past years' budget surpluses to be used as an internal revolving loan fund to make energy efficiency improvements to municipal buildings. This unusual and forward-thinking action provides the city with the resources to invest in its own energy and cost savings. The city should undertake full energy audits of its structures to identify the highest returns on investment of these modest funds, and leverage DTE rebates or bulk purchasing opportunities with EMU or other communities. In any case, though, the city should work to invest as quickly as possible: it is only once the fund is used that the savings from energy improvements can replenish the account. Similarly, returns to the fund should be spent as soon as the accumulated savings are enough to make further investments, in order to maximize financial benefits.

EFFORTS UNDERWAY

These are activities that are currently underway by the city or other actors in the community. These efforts may not need any active intervention at this point, except to be monitored and celebrated as significant achievements.

CITY ACTIONS: CONTINUE PROGRESS, CELEBRATE SUCCESS!

STRATEGY	SHARE OF TARGET	COST AND FUNDING SOURCES	LEAD ACTOR	PARTNERS
Continue development of bicycle and pedestrian network.	600 mtCO2e	$5,000-$20,000 per mile on-road $100,000 per mile off-road	Planning & Development Department, Non-Motorized Advisory Committee	Washtenaw Area Transportation Study (WATS), Washtenaw County Parks & Recreation Commission (WCPARC), EMU, adjacent townships, Washtenaw County Road Commission
Champion development of the County-wide Transit Master Plan	303 mtCO2e	Funding via CMAQ (federal), WCPARC, MDOT Urban Safety funds To be determined by 196 board for regional funding	City Council, via 196 board representative	Ann Arbor Transit Authority (AATA), Washtenaw County, adjacent Townships
Prioritize infill development opportunities in Master Plan update.	Depends on specific measures adopted	Funding in place via Washtenaw County	Planning & Development Department, Planning Commission	Business and neighborhood associations, DDA, Ann Arbor SPARK, Washtenaw County, EMU
Increase communications and outreach around sustainability, publicizing efforts and providing information on how citizens can get involved.	Supports implementation of other efforts.	Costs: Staff time	City Manager and Department of Public Services	Elected officials, city staff, COPAC, local media

DIRECT INVESTMENTS

Some strategies require direct capital investment by the city or a close partner to upgrade buildings, infrastructure, or other assets so that they function more efficiently. These actions typically also result in direct financial savings for the city government in the form of reduced energy bills. As noted above, the city has previously established an internal revolving loan fund (RLF) to invest in energy efficiency improvements and recapture cost savings. Because these strategies provide extremely good returns on investment, the city should pursue them aggressively, in order to enjoy the cost savings as soon as possible: it would be reasonable to begin implementation of all of these strategies within the first year after adopting the plan.

CITY ACTIONS: PRIORITIZE PROJECTS, IDENTIFY FUNDING OPPORTUNITIES, PERFORM WORK, TRACK RESULTS.

STRATEGY	POTENTIAL GREENHOUSE GAS EMISSIONS REDUCED	COST AND FUNDING SOURCES	LEAD ACTOR	PARTNERS
Upgrade lighting fixtures in city buildings as soon as possible.	150 mtCO2e	$6,000 Expected ROI less than 1 year Funding via internal RLF	Department of Public Services	Southeast Michigan Regional Energy Office
Install occupancy sensors on lights throughout public buildings.	180 mtCO2e	$7,500 Expected ROI less than 1 year Funding via internal RLF	Department of Public Services	---
Upgrade street lights as quickly as possible, focusing on least efficient fixtures first.	0.25 mtCO2e per fixture 510 mtCO2e for all lights	$400-600 per fixture Up to $1.1 million for all Expected ROI 4-7 years. Funding via internal RLF and additional grants	Department of Public Services	Downtown Development Authority, Eastern Michigan University, Southeast Michigan Regional Energy Office
Investigate sensor and control improvements at YCUA wastewater treatment plant.	182 mtCO2e	$250,000 Expected ROI 0.5-2 years	YCUA	Adjacent Townships, UIS Corp., Regional Energy Office

PROGRAMMATIC EFFORTS

These strategies generally rely on some ongoing effort by the city or a close partner to support or encourage behavioral change in the community at large. These actions typically do not result in a direct energy cost savings to the city government, but may free up resources for other efforts or result in increased tax revenues by making the community more attractive and supporting property values.

CITY ACTIONS: IDENTIFY NECESSARY PARTNERS, REFINE PROGRAM GOALS AND ACTIVITIES, LAUNCH.

STRATEGY	SHARE OF TARGET	COST AND FUNDING SOURCES	LEAD ACTOR	PARTNERS
Educate on the availability of low and no cost business energy audit services through multiple partners.	4,000 mtCO2e	Free to city	Southeast Michigan Regional Energy Office	DTE Energy, DDA, Chamber of Commerce, Downtown Association of Ypsilanti (DAY)
Monitor financing opportunities for solar installation and publicize via Solar Ypsi.	176 mtCO2e	City: staff time	Solar Ypsi	Regional Energy Office, Clean Energy Coalition
Promote available energy efficiency incentive programs to reach maximum adoption in the city.	720 mtCO2e	Installation: $10,000 per kW capacityFunding via available grants and credits Free to city	Planning & Development	Regional Energy Office, Washtenaw County, DTE
Increase recycling rates via promotion and competition.	1750.94 mtCO2e (2.87 mtCO2e per ton of recycling diversion)	City: Staff time	Department of Public Services	Eastern Michigan University, Ann Arbor Materials Recovery Facility, neighborhood associations

STRATEGY	SHARE OF TARGET	COST AND FUNDING SOURCES	LEAD ACTOR	PARTNERS
Provide attractive sidewalk recycling bins for downtown, campus.	(supports goal of increased recycling rates)	$50-75 per bin Funding from local sponsorships	DDA	DDA, Eastern Michigan University, downtown business owners
Engage community partners in an effort to understand residents' travel needs and develop a marketing plan to meet those needs.	4,400 mtCO2e	$30 per household targeted	Non-Motorized Advisory Committee	Ann Arbor Transportation Authority, EMU
Partner with Eastern Michigan University to create a bike-sharing program and car-sharing network.	Bike sharing: 82.4 mtCO2e Car sharing: 910 mtCO2e	Bike sharing: $492,000 initially $229,000 annually Annual operating costs recouped via fees for subscription Car sharing: No cost to city	EMU	DDA, Hertz, Non-Motorized Advisory Committee
Implement a series of energy saving workshops in different venues.	640 mtCO2e	---	EMU, Clean Energy Coalition	WARM Training Center, SHPO, BBFM
Develop home and business water efficiency financing program.	0.22 mtCO2e per household 181.5 mtCO2e by 2020	$500 per household	YCUA	Regional Energy Office, City of Ann Arbor

POLICIES DRIVING CHANGE

One of the most effective ways for government to effect broad change in the community is through policy efforts that remove barriers to or provide incentives for certain activities. Land use policy and zoning, building codes, and use of tax abatements and financial incentives all provide opportunities to create a more attractive environment for low-carbon investments and behaviors.

CITY ACTIONS: REFINE GOALS, CRAFT LEGISLATIVE OR POLICY LANGUAGE, ADOPT, APPLY AND PROMOTE.

STRATEGY	SHARE OF TARGET	COST AND FUNDING SOURCES	LEAD ACTOR	PARTNERS
Adopt a Green Globes certification requirement for any development project receiving at least $10,000 in municipal incentives or tax abatements in a single year.	272 mtCO2e	City costs: staff time only, as part of incentive review process	Planning & Development Department	SPARK, local developers
Develop a utility costs disclosure ordinance for rental housing units.	6,443 mtCOe	City costs: staff time only, to develop ordinance and monitor as part of existing rental certification enforcement	Building Department	Planning & Development Department, City of Ann Arbor, Ypsilanti Township, local landlords
Identify funding sources to implement recommended tree planting program and continue policy support.	358 mtCO2e	$110 per tree or $27,000 annually DTE grants or voluntary contributions appropriate	Planning & Development	Department of Public Services, individual residents and businesses

STRATEGY	SHARE OF TARGET	COST AND FUNDING SOURCES	LEAD ACTOR	PARTNERS
Partner with DDA and AATA to provide a discounted transit pass via the City Treasurer as an alternative to downtown parking permits.	740 mtCO2e	No additional cost or $200 per employee	DDA	Ann Arbor Transportation Authority, Washtenaw County, Key Bank, EMU
Expand "Live Ypsi" public employee residency incentives.	240 mtCO2e	$5,000-$10,000 Consider general fund seed funding as well as MSHDA and foundation sources	Eastern Leaders Group	EMU, Planning & Development, Washtenaw County, Ypsilanti Public Schools

COMMUNITY INITIATIVES

Ypsilanti has a strong tradition of grassroots citizen efforts, and several strategies arose in the community engagement process that would not necessarily need the involvement of the city government, but could be undertaken by community members. This category of strategies may require city support in the form of endorsement of grant applications, ordinance or policy changes, or similar actions.

The city will locate future citizen involvement in the plan in a few central locations. The City of Ypsilanti will communicate regularly with residents about progress towards plan implementation through events, a dedicated page on the City's website, and existing social and traditional media channels. The Michigan Suburbs Alliance webpage will host a model library of strategies to reduce greenhouse gas emissions and related resources for citizens to learn more about the issue. Eastern Michigan University students and professors will work with City and Suburbs Alliance staff to create an Ypsilanti Sustainability Library--a central location to house resources, host community dialogue and provide a gathering place for interested citizens. Finally, the city and EMU should consider a joint advisory committee, with campus staff, faculty and students working alongside city staff, residents and business owners. As an advisory body, this group would not have any formal policy-making powers but would facilitate collaboration and coordination by the various stakeholders. Ideally, this body could include Township, school district and hospital partners as well.

CITY ACTIONS: SUPPORT, ENDORSE, REMOVE BARRIERS.

STRATEGY	SHARE OF TARGET	COST AND FUNDING SOURCES	LEAD ACTOR	PARTNERS
Work with community stakeholders to initiate an energy competition.	1998 mtCO2e	$2 to $5 per person contacted	Neighborhood associations, DTE Energy	EMU, Ypsilanti District Library, residents
Create an Ypsilanti sustainability library.	Supports implementation of other efforts	Costs may include staff and volunteer time as well as the physical or online space for the library	Members of EMU community	Local residents, Ypsilanti Public School District (YPSD), Ypsilanti District Library
Utilize the community's experts to gather support for adding sustainability education to the curriculum in local K-12 schools.	Supports implementation of other efforts	Costs may include the training of educators and the purchase of supplies for lesson plans	YPSD	EMU, Central Gardens Middle School, Washtenaw Community College, Creative Change Educational Solutions, Growing Hope, Transition Ypsilanti

STRATEGY	SHARE OF TARGET	COST AND FUNDING SOURCES	LEAD ACTOR	PARTNERS
Implement a series of energy saving workshops in different venues.	640 mtCO2e	---	EMU, Clean Energy Coalition	WARM Training Center, SHPO, BBFM
Implement a pilot program for a municipal kitchen compost system with high food-waste generators.	450 mtCO2e	$50,000 for biodigester unit	Growing Hope, Washtenaw County Kitchen Incubator	DDA, Downtown Association of Ypsilanti, Washtenaw County Kitchen Incubator, YPSD

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