Notice
City Commission and Planning Commission Joint Study Session

7:00 p.m.
Monday, September 26, 2016
Governmental Center, Commission Chambers, 400 Boardman Avenue
Traverse City, MI 49684
Posted and Published: 09-23-2016

The meeting informational packet is available for public inspection at the Traverse Area District Library, Law Enforcement Center, City Manager's Office, and City Clerk's Office.

The City of Traverse City does not discriminate on the basis of disability in the admission or access to, or treatment or employment in, its programs or activities. Penny Hill, Assistant City Manager, 400 Boardman Avenue, Traverse City, MI 49684, 922-4440-TDD: 922-4412, has been designated to coordinate compliance with the non-discrimination requirements contained in Section 35.107 of the Department of Justice regulations. Information concerning the provisions of the Americans with Disabilities Act, and the rights provided thereunder, are available from the ADA Coordinator. If you are planning to attend and you have a disability requiring any special assistance at the meeting and/or if you have any concerns, please immediately notify the ADA Coordinator. At the request of City Manager Marty Colburn, City Clerk Benjamin Marentette has called this study session.

City Commission:
c/o Benjamin C. Marentette, MMC, City Clerk
(231) 922-4480
Email: tcclerk@traversecitymi.gov
Web: www.traversecitymi.gov
400 Boardman Avenue
Traverse City, MI 49684

The mission of the Traverse City City Commission is to guide the preservation and development of the City's infrastructure, services, and planning based on extensive participation by its citizens coupled with the expertise of the city's staff. The Commission will both lead and serve Traverse City in developing a vision for sustainability and the future that is rooted in the hopes and input of its citizens and organizations, as well as cooperation from surrounding units of government.

Welcome to the Joint Study Session!

Any interested person or group may address the Commission and Planning Commission on any agenda item when recognized by the presiding officer or upon request of any commissioner. Also, any interested person or group may address the Commission and Planning Commission on any matter of City concern not on the Agenda during the agenda item designated Public comment. The comment of any member of the public or any special interest group may be limited in time. Such limitation shall not be less than five minutes unless otherwise explained by the presiding officer, subject to appeal by the Commission.

Agenda

Pledge of Allegiance

Roll Call

1. Presentation regarding the Envision Eighth Street Initiative. (Marty Colburn, Russell Soyring)

2. Public Comment.

*City Commission continued discussion
(Planning Commission is welcome to depart)*

3. Discussion regarding concepts presented by SEEDS for energy efficiencies and future energy goals. (Marty Colburn)

5. Announcements from the City Clerk. (Benjamin Marentette)

6. Public comment.

7. Adjournment.

The City of Traverse City

Communication to the City Commission

FOR THE CITY COMMISSION MEETING OF SEPTEMBER 26, 2016

DATE: SEPTEMBER 23, 2016

FROM: MARTY COLBURN, CITY MANAGER

SUBJECT: SEPTEMBER 26 STUDY SESSION

We have a Joint Study Session with the City Planning Commission scheduled for Monday evening; and at that meeting will be a presentation from Farr Associates regarding a draft Master Plan for the Eighth Street corridor as well as a form-based zoning code for the area.

Attached is a memo from Planning Director Russ Soyring in connection with the presentation. As explained by Mr. Soyring, Farr and Associates will be conducting a public open house this Monday, September 26, from 3 p.m. to 5 p.m. and will seek feedback at the Joint Study Session Monday evening.

Based on the feedback they hear on the draft plan and code, they will refine the drafts and make a final presentation to the City Commission.

2. General Public Comment for the Planning Commission; and at this time, the Planning Commission is welcome to depart.

3. Discussion regarding concepts presented by SEEDS for energy efficiencies and future energy goals.

Attached is a letter from SEEDS Executive Director with related documentation regarding work and concepts it has been developing, as supported by the State of Michigan Energy Office. These concepts provide potential strategies for energy efficiency that could be leveraged through design, use, etc. We are reviewing these concepts and will be developing a roadmap to achieve efficiencies and establish future energy goals.

Additionally, attached is information regarding an energy roundtable and discussion hosted by Mayor Jim Carruthers and Traverse City Light and Power Executive Director Tim Arends featuring former Grand Rapids Mayor George Heartwell.

Finally, attached is information regarding a roundtable panel discussion with former Grand Rapids Mayor George Heartwell and local leaders regarding what cities can do to fight against global climate change.

MC/bcm
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Copy: Tim Arends, Traverse City Light and Power Executive Director
Russ Soyring, City Planning Director
Jean Derenzy, Grand Traverse County Deputy Director of Planning and Development
Sarna Salzman, SEEDS Executive Director – sarna@ecoseeds.org

Memorandum

The City of Traverse City
Planning Department

TO: MARTY COLBURN, CITY MANAGER

FROM: RUSS SOYRING, PLANNING DIRECTOR

SUBJECT: PREFERRED SCHEME FOR EIGHTH STREET AND DRAFT FORM BASED CODE FOR DEVELOPMENT ALONG EIGHTH STREET

DATE: SEPTEMBER 22, 2016

To prepare for reconstruction of 8th Street scheduled in the Capital Improvement Plan for 2018, a call for proposals went out in late December seeking professional assistance in engaging the public in the development of a conceptual design for the 8th Street corridor including both the public and private components of the corridor. Funders for the study and plan included the City of Traverse City, Michigan State Development Authority and Grand Traverse County Land Bank Program.

The planning process included a well attended public kick off meeting in April followed by a five-day charrette in mid-May where a preferred concept plans for the street, sidewalk, lighting, and landscaping were developed along with the drafting of a development code to regulate the building types and development patterns along the street. Because there was no consensus on building heights an extra public meeting was held in June to provide clearer guidance for the draft Form Based Code. Now we are in the final stages of the planning effort. An open house will be held on this Monday from 3 to 5 pm followed by a formal presentation to the City Commission at 7 pm.

Doug Farr, Farr Associates will present the draft Master Plan for the corridor and the draft Form Based Code for the study area. The firm will record feedback they hear at the public open house and at the City and Planning Commission Joint meeting. Based on the feedback they will refine the draft report and come back to attend one additional meeting for possible adoption by the City.

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Marty Colburn
City Manager, City of Traverse City
400 Boardman Lake Ave.
Traverse City, MI 49684

September 8, 2016

Dear Mr. Colburn,

Michigan's local units of government face opportunities to substantially improve their capacity by improving their energy footprints. Using data to develop recommendations and drive change requires participation and expertise from multiple sectors – public, private, and nonprofit. SEEDS exists to implement local solutions to global issues at the intersection of ecology, education and community design. Smart energy management is certainly a global challenge, yet many of the solutions are accessible at the most local of levels. We help coordinate multiple stakeholders who share a common goal. As you may know,

- In a 2011 partnership with the (then) NW Michigan Council of Governments, we provided energy management services for 20 local units of government including commercial-grade audits of select buildings, some implementation dollars, and the development of 5-year Energy Action Plans based solely on the re-investment of dollars saved by the grant-funded implementation projects. Those improved buildings were showing an average 35% initial rate of return. The City's Climate Action Plan as well the prior 2009 assessment report produced for the City are both attached.
- With MLUI, SEEDS co-led the Department of Energy's residential energy efficiency program for the City. Known locally as TC Saves, this program directly impacted 600 homes and leveraged $2.8 million in efficiency upgrades over two years, reducing TCL&P's load by more than 1.8 megawatt hours/year.
- SEEDS brings a job-creation perspective to this work including familiarity with job projection modeling associated with community energy efficiency activities. Two examples are attached.
- Finally, SEEDS created several comprehensive baseline assessments of regional energy consumption patterns that indicate how collective energy expenditures might be shifted to provide positive local impacts and methodologies to monitor progress.

) on file w/ City Clerk.

Since March of this year, the State of Michigan's Energy Office has directly supported SEEDS for work on behalf of the City of Traverse City. Following City staff requests we focused on the following activities:

1. Reviewing and commenting on the current City Master Plan.
2. Reviewing and commenting on the Capital Improvements Plan.
3. Inquiring with local stakeholders about viable incentives for community development including energy efficiency, green construction, and affordable housing.
4. Working with Facilities staff to review building performance.
5. Proposing a "bite-sized" collaborative project specifically between the City and the County.

Results from these activities are attached. We look forward to revisiting and revising goals for future activities.

Sincerely,

Sarna Salzman
Executive Director

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Traverse City Facilities Snapshot

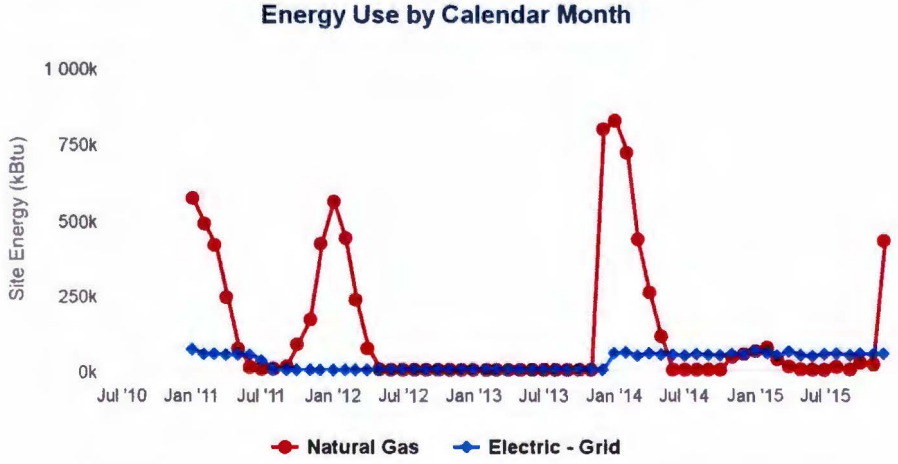
Energy Star Portfolio Manager

Energy Star Portfolio Manager (ESPM) is an interactive resource management tool that enables the tracking and and assessment of energy and water use across an entire portfolio of buildings. ESPM has been used here to set energy use benchmarks, identify which buildings are performing well and target buildings that offer opportunities for improved energy efficiency.

Performance Highlights

In Traverse City's portfolio of buildings the DPS service center is performing well when its site energy use intensity (EUI) is compared to other buildings nationwide. Site EUI is a measure of the annual amount of energy a property consumes on site per square foot as reported on utility bills.

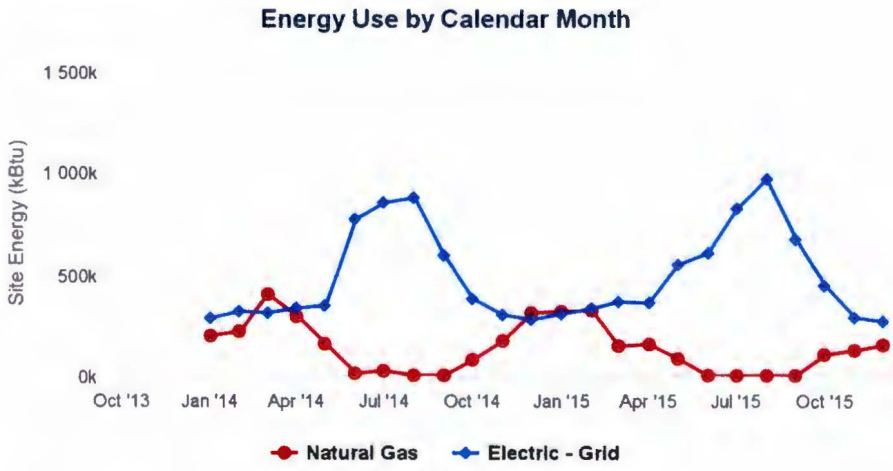
DPS Service Center



Site Energy Use Intensity: 22.7 kBtu/ft^2
53% less than the national median site energy use intensity.

Additionally the Water Treatment Plant has seen a small decrease in EUI over the past year.

Water Treatment Plant

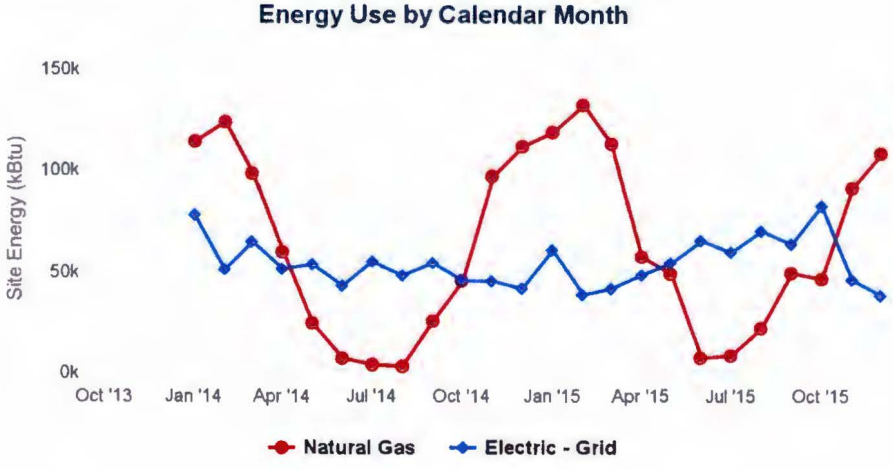


Site Energy Use Intensity: 196.6 kBtu/ft²
Decreased 1.3% over the past year.

Opportunities for Improvement

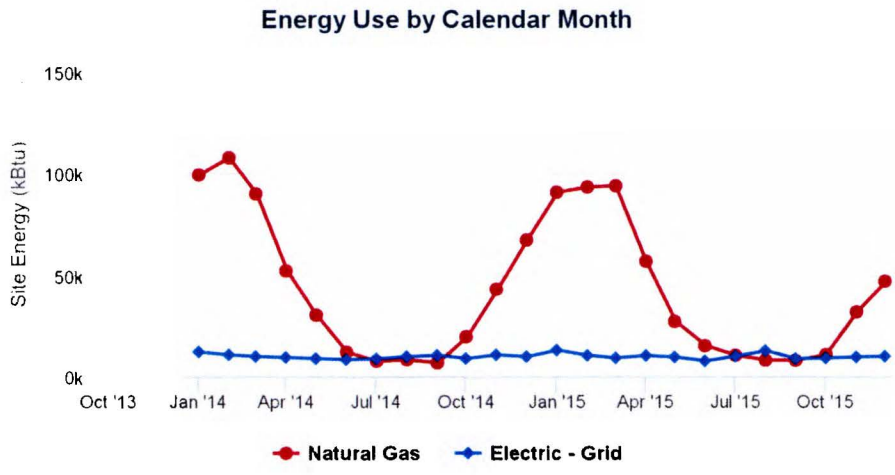
Based on the performance of the following buildings there are opportunities to improve energy efficiency at the following buildings:

Carnegie Building



Site Energy Use Intensity[1]: 85 kBtu/ft²
99.4% greater than the national median site energy use intensity.

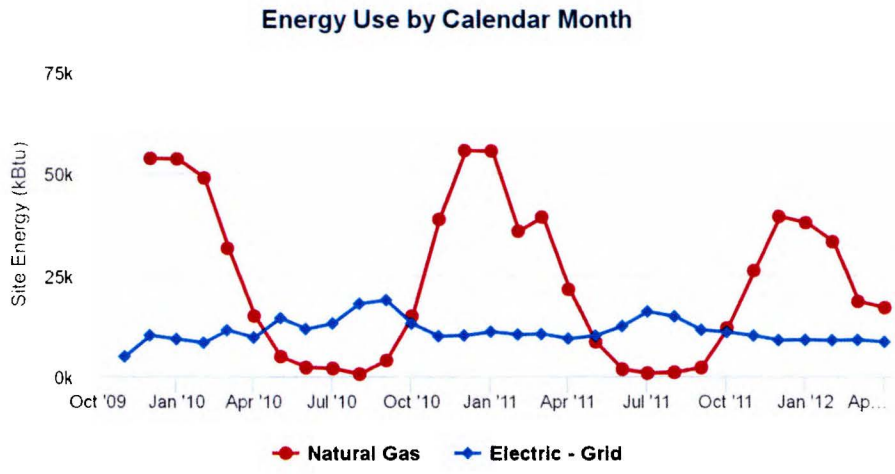
Fire Station #2



Site Energy Use Intensity: 110.4 kBtu/ft²

6.5% greater than the national median site energy use intensity.

Senior Center



Site Energy Use Intensity: 49.6 kBtu/ft²

61.4% greater than the national median site energy use intensity.

The City Is currently not using ESPM to strategically track energy use or cost for the following buildings:

- Cemetery Maintenance Bldg
- Fire Station #1
- Harbor Master Building - Duncan L Clinch Marina
- Hardy Parking Deck
- Hickory Hills Ski Area
- Old Town Parking Deck
- Opera House
- Wastewater Treatment Plant

You can't manage what you don't measure. Tracking energy use is an important first step to realizing energy savings and increasing energy efficiency. Organizations benchmarking consistently with ESPM have achieved average energy savings of 2.4% per year.

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Business Case for Retrocommissioning (Rcx) at the Governmental Center

Table 1: Expected Gov. Center Energy Savings[1] from Rcx over 5 years.

Year	Utility Cost Savings	Elec Savings (kWh)	Gas Savings (therms)
1	$12,469	674,347	3,992
2	$11,409	617,028	3,652
3	$9,470	512,133	3,031
4	$7,055	381,539	2,258
5	$4,656	251,816	1,491
Cumulative Total	$45,059	2,436,863	14,425
Annualized Average	$9,012	487,373	2,885

What is Retrocommissioning? The aim of a *Rcx* project is to ensure that a building actually delivers the level of energy efficiency promised by its design and equipment. Inevitably, equipment and controls "drift" from the ideal and *Rcx* puts things back on course, like the value in regular "tune ups" for a vehicle. The quality assurance goal is to improve operations and maintenance procedures in order to enhance overall building performance.

Why Haven't I Heard of This Before? While integral to a systematic approach to facilities energy and risk-management, there remains a broad lack of awareness of retrocommissioning as a viable strategy both with facilities managers and trade professionals. It is neither required from most building codes, nor is it a common practice in utility-driven energy optimization incentive programs, which tend to focus on equipment swaps and often inhibit systemic approaches – especially those affecting more than one energy source such as electricity and natural gas.

[1] Based on average results published by LNBL 2009 and assuming that savings decline 9% a year after commissioning.

The Governmental Center annually uses 10,647,036 kBtu, or 193.8 kBtu of energy per sf (weather normalized). This translates to average annual energy costs of $77,931.92 with electricity making up over 75% of the energy used and the energy expenditure. The Government Center could expect the following benefits from a Rcx project:

- Cost of Rcx (based on Floor Space of 54,355 sf)
  - Range: $8,000 to $25,000
  - Average: $16,850
- Expected Energy Savings
  - Range: 10-30%
  - Average: 16% first year (reduced by 8.5% a year thereafter)

Additional Non-Energy Co-Benefits

- Extended equipment life
- Reduced corrective maintenance
- Thermal comfort
- Indoor environmental quality
- Occupant productivity

Table 2: Range of Rcx Investment Outcomes for Gov. Center[2]

Cost Scenario	Cost / Sf	Total Cost	Payback (years)	Annualized ROI
Min	$0.15	$8,153	0.7	91%
Avg	$0.30	$16,850	1.4	33%
Max	$0.45	$24,460	2.0	17%

Financing Options

SEEDS is prepared to help with the pursuit of any or all of the following:

1. Use of existing operating funds, e.g. via Energy Savings Account.
2. Apply for a grant. Similarly, it is worth pursuing partial reimbursement from TCL&P.
3. Leverage financing – there are at least 2 options at 0% worth pursuing.
   a. Under a financing scenario, it is also possible to embed costs associated with project development, management and/or quality assurance into the total project cost. This is worth consideration as long-term strategic approach to facilities management are developed, anticipating future smart energy projects.

[2] Assumes average savings. Only the cost of Rcx is varied. Only energy consumption cost savings are included. Demand savings, prolonged equipment life, reduced corrective maintenance costs, and other co-benefits are not included and would improve the payback period and ROI.

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Summary of Regional Energy Action Strategies Specific to Local Government Implementation Based on 10-County Baseline Analysis

With an understanding of the baseline energy consumption and production patterns of the 10-County region of Michigan's Prosperity Region 2, the impacts of a variety of policies relevant to local governments were analyzed using ACEEE's LEEP-C tool. This study modeled three implementation scenarios, low-intensity, medium and high-intensity, over a 15 year implementation period and evaluated the gross and the net impacts over a 30 year period. The scenarios are explained below, followed by a Table summarizing the 23 activities most relevant to local units of government and impactful activities.

Low Intensity Implementation Scenario implements energy use disclosure across all sectors, targets 50% of new residential building to meet high energy efficiency standards, and 50% of public and commercial buildings for retrofit and retro-commissioning or energy performance standards. Land use related transportation polices target 60% of new development.

Medium Intensity Implementation Scenario increases local government incentives towards residential and commercial programs, targets 75% of new residential building to meet high energy efficiency standards, and 75% of public and commercial buildings for retrofit and retro-commissioning or energy performance standards. Land use related transportation polices target 70% of new development.

High Intensity Implementation Scenario maximize local government incentives towards residential and commercial programs; targets 100% of new residential building to meet high energy efficiency standards, and 100% of public and commercial buildings for retrofit and retro-commissioning or energy performance standards; and maximizes strategy efficiency goals. Land use related transportation polices target 90% of new development.

In the **Low Intensity Implementation Scenario**, summarized in the Table below, total site energy savings represent the end-use energy saved directly by consumers. The combined average annual savings across the region would be 1.8 trillion Btus, resulting a net present value of $38 million each year – that is total community savings minus total community costs adjusted for price changes price and interest over the 30 year evaluation period. Additionally, these strategies would result in an average net increase of 292 jobs (predominately local) and an average of 250,000 fewer metric tons of carbon dioxide-equivalent emissions (GHG) emitted from the region each year.

The final metric, the benefit-cost ratio takes the net present value (NPV) of the total cost savings to consumers divided by total costs to administer and implement each strategy. It is indicative of the return on investment of each strategy, where a higher ratio represents greater net value to the community.

Table: Summary of Energy Policy 30 Year regional Impacts (Low Intensity Implementation Scenario)

STRATEGY IMPACT ANALYSIS (15 year implementation, 30 year evaluation)	Site energy savings	Net present value	Net jobs	GHG reduction	NPV *less* cost
	Total (MMBtu)	*$ Million Net savings*	*Avg. Jobs/yr*	*Million MT CO2e*	*$ benefits / $ costs*
Residential Sector	**21,655,600**	**$ 209.4**	**94**	**2.15**	**5.23**
Energy use disclosure	8,203,700	$ 72.4	31	0.87	2.26
Updating residential building energy codes	6,777,500	$ 65.9	36	0.72	3.01
Efficient new homes - Energy Star Certified	6,672,800	$ 71.2	27	0.57	10.43
Commercial Sector *	**17,735,800**	**$ 255.2**	**136**	**3.33**	**2.96**
Commercial building retrofit	10,364,900	$ 75.9	70	1.54	1.68
Commercial building retro-commissioning	4,772,500	$ 80.0	29	0.71	7.57
Commercial building benchmarking and disclosure	253,700	$ 2.9	2	0.04	2.52
Performance-based policy for new and existing commercial buildings	17,735,800	$ 255.2	136	3.33	2.96
Updating commercial building energy codes	1,973,400	$ 37.4	20	0.47	3.53
Public Sector *	**6,955,700**	**$ 131.7**	**49**	**1.31**	**6.14**
Public building retrofit	2,745,700	$ 47.5	19	0.48	5.23
Public building retro-commissioning	1,360,300	$ 29.6	9	0.24	22.78
Public building benchmarking and disclosure	73,300	$ 131.7	1	0.01	8.27
Performance-based policy for new and existing public buildings **	6,955,700	$ 1,261.4	49	1.31	7.84
Transportation Sector	**8,844,700**	**$ 542.4**	**0**	**0.68**	**6.14**
Combined Land Use	1,197,900	$ 166.2		0.09	143.43
Pedestrian strategy	588,400	$ 73.0		0.05	10.16
Bicycle strategy	621,500	$ 75.7		0.05	21.65
Parking pricing	184,800	$ 22.8		0.01	-
Pay-As-You-Drive Insurance	3,320,500	$ 347.0		0.26	6.14
Employer-based commute strategies	1,822,100	$ 5.4		0.14	1.02
Increased levels of transit service/improved travel times	176,700	$ (11.1)		0.01	0.73
Expanded public transportation	932,800	$ (136.5)		0.07	0.51
Total	**55,191,800**	**$1,139**	**279**	**7.46**	**1.86**
Annual Average	**1,839,726**	**$38**	**279**	**0.25**	**1.86**

* Public sector energy use is typically categorized under the commercial sector, but we have separated the policies and impacts for both to illustrate the impact of applying a local governments leading by example approach.

** Policy 4. Performance Based Policy assumes the impacts of all of the other policies combined if applied across the same scope of buildings in that sector and therefore cannot be added to the other strategies. All policy impacts are shown but the total impact for each sector assumes only the impact of Policy 4. for the Commercial and Public sectors.

Example Strategy Breakout for COMMERCIAL & PUBLIC SECTOR
Commercial & Public Buildings Comprehensive Retrofit

What: This includes both a Retro-Commissioning (see below) plus additional strategic capital investments in efficiency and energy productivity.

Why: For older buildings, it will significantly lower operating cost through improving overall energy productivity. A comprehensive energy assessment can determine where a building's current performance level and pinpoint small adjustments in operations and technology, as well as larger investments that would make significant differences.

Action: Depending on the desired implementation intensity, set targets for comprehensive retrofits at 50% to 80% for renovations with financial incentives targeted at 18% to 23% of total project budget. Have local/regional government adopt a building certification system such as Energy Star Certification or LEED to set an acceptable level of energy productivity.

Tools & Resources:
http://www.energystar.gov/index.cfm?fuseaction=labeled_buildings.locator
http://www.usgbc.org/leed#ratinghttp://aceee.org/research-report/a052

Measures: Average energy savings from comprehensive retrofits on commercial and public buildings.

Local Impact Potential: Commercial & Public building retrofits have an average cost of $ 2.50 per square foot and typically result in 23% reduction in energy use and a positive return on investment within 5-7 years. This strategy results in the largest energy savings over time.

Commercial Building Retrofit (Excluding Public Sector)					
Implementation Intensity	***Energy Savings (Total MMBtu)***	***Net Present Value (Million $ Net Savings)***	***Net Jobs (Avg Jobs/yr)***	***GHG Reduction (Million MT CO2e)***	***NPV Benefit-Cost ($ benefits/$ costs)***
Low	10,364,900	$ 75.90	70	1.54	1.68
Medium	15,067,800	$ 75.61	105	2.23	1.39
High	18,435,400	$ 91.37	128	2.73	1.38

Public Buildings Retrofit					
Implementation Intensity	***Energy Savings (Total MMBtu)***	***Net Present Value (Million $ Net Savings)***	***Net Jobs (Avg Jobs/yr)***	***GHG Reduction (Million MT CO2e)***	***NPV Benefit-Cost ($ benefits/$ costs)***
Low	2,745,700	$ 47.54	19	0.48	5.23
Medium	4,821,400	$ 80.33	34	0.85	4.23
High	6,276,000	$ 103.74	44	1.11	4.13

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Summary of Stakeholder Input Regarding Community Development Incentives

SEEDS interviewed the following individuals, based on the request of Jean Derenzy, specifically for their opinions and knowledge about strategies to incentivize particular types or styles of development, including energy efficiency and affordable housing.

- Chris Wendel, Northern Initiatives
- Sarah Lucas, Networks Northwest
- Doug Luciani, Traverse CONNECT
- Mike Wills, Real Estate Development Consultant
- Tim Ervin, Alliance for Economic Success
- Laura Galbraith, Venture North

Among the recommendations from the DDA's Market Study by AECOM, to *Incentivize what you prioritize*, and to *Set clear development guidelines,* were themes that carried through these interviews.

"The number one thing the City can do is have clear rules." Mike Wills

When asked about the tools the City could effectively use to incentivize development, the following advice clearly emerged,

1. **Start at Home** – The City can and should lead by example, utilizing its own property, funds, and other assets. If energy efficiency is a goal, revise City owned or operated minimum building standards to be higher than State mandates (e.g. MI Executive Directive 2005-4 requires the Department of Management and Budget to establish an energy efficiency target for all state buildings managed by the Executive Branch and that all state buildings occupied by state employees be benchmarked using Energy Star Portfolio Manager). As noted by Doug Luciani, *"Leadership in Energy is a talent attracter like no other. Crack the code!"*

   There was a consistent request for the City to provide clear messages regarding its goals, its rules, and how it will follow through. Also multiple requests for offering very clear definitions. Ideas in this regard included,
   a. Getting clear on a Plan and consensus on a short-term (2 year) Vision.
   b. Leveraging property and assets to support this Plan / Vision by offering it at lower than market rate.
   c. Clarifying the difference in roles between Staff and Commissions.
   d. Investing more in economic development. While respondents found City staff and elected officials to be accessible, say "yes", and hold the best interests of the City at heart, a few people specifically noted a desire for the City to invest more capacity into economic development – either in-house staff or by hiring an outside partner through an RFP process. Requests included both the pre-implementation networking, recruitment, and financing

legwork as well as an ombudsman/champion to help a developer push the process along. There was a general sense that this is underserved when compared with historical investments.

- E.g. Mecosta and Oceana Counties have business liaisons

e. Offering Commuter Incentives instead of free parking at the Governmental Center, Courthouse, etc.
   - Tracking usage, employee morale, retention/work days, and stories would influence other area employers

f. Actively developing or collaborating with developers where the City sees need. (e.g. Wills asked, *Why didn't the City require greater density in the Depot project?)*

2. **Using Zoning Incentives** – Creating definitions that specifically support City priorities greatly clarifies actual costs and barriers for developers.
   a. Define what makes good housing – provide specs for important goals (e.g. Child Advocacy Services has design specs for 'children-safe' housing)
   b. Define "affordable" including duration of affordability
   c. Define Use By Right
   d. Promote location-efficient development (e.g. with density bonuses or expedited permitting)
   e. Consider *Inclusionary Zoning*: a policy to set aside a percentage of housing for specific income households in new, market rate developments. The CA Supreme Court has ruled in favor of this use of government power.
   f. Consider which zoning requirements and/or processes may be traded to further City goals (e.g. parking, setbacks, road frontage, impervious surface, height, signage, etc.).
      - The City of Ann Arbor retains antiquated minimum parking standards and actively lowers these minimums to get desired features in new developments.

3. **Using Subsidies –** Again, clarity and even application were called for. An example offered of a mixed message is the DDA policy to incentivize snowmelt; they will offset costs by 50% yet no money is earmarked for this in their annual budget and therefore it comes across feeling like they are looking for excuses to reject applications. Positive opportunities include:
   a. Leveraging housing subsidies to gain greater densities.
   b. Using Trust Funds – e.g. GTCounty Housing Trust Fund from revenues drawn from sales of foreclosure
   c. Using TIFF – which requires benefit to a specific district PLUS a public purpose. Public purpose can be defined to include housing access, smart energy management, and/or other environmentally sensitive building requirements.
   d. Using Brownfield funds – although it was noted that this fund has transitioned from an incentive (subsidy) to an important funding gap-filler. Also that local politics have make access to these funds feel both expensive and risky to a developer.
   e. Using Loan funds to help a developer meet requirements and cash flow. Sometimes the timing of positive cash flow is as important as profit margins. Defining funds to support City goals could be a low to no cost incentive. Examples include TCLP's Energy Efficiency fund, the City of Ann Arbor's Energy Efficiency revolving loan fund, and PACE (Property Assessed Clean Energy) financing.

4. **Using Tax Abatements** – It was noted that current property tax rate structures really discourage the "missing middle" from living in City limits.
    a. Property Tax Reductions can be accomplished for affordable housing by lowering the property value based on actual income and expenses rather than potential market rate figures. Tax Abatements that are negotiated on a case-by-case basis can have difficulty providing accountability unless they include clear quality standards, compliance disclosures, money-back guarantees, and/or citizen participation.
    b. Payment In Lieu Of Taxes (PILOTs) are generally most appropriate for municipalities reliant on property taxes and who host a significant share of total property owned by a non-taxed entity that provides modest benefit to local residents relative to its tax savings.

5. **Leveraging Partnerships** – Doug Luciani expressed that, *"Partnership is how things get done and the better you are at partnerships the more one can get done."* The City is known for collaboration, but big contentious projects can dominate the airwaves, creating false negative impressions. It was noted that, around Traverse City, there are roughly 10 small local developers to every large (e.g. Costco) developer. These are accessible people that can be directly negotiated with and encouraged. One of the best things the City can do to support partnership is to actively share the small wins more broadly! Also the following:
    a. Partnering on funding requests that help subsidize City priorities.
    b. Partnering on financing opportunities that support City priorities.
    c. Working directly with the business community on company housing.
    d. Synergizing development and renovations with utility incentives. TCLP, in particular, considers the residents of TC as its owners and is highly motivated to be of service. Tim Arends has repeatedly noted his interest in thinking more creatively about leveraging Energy Optimization funds for greater impact. The installation of smart meters opens many doors of possibility. Support for energy efficiency from outside the utility itself could energize the nimble nature of a municipal utility in ways that are unavailable to those areas served by the Investor Owned Utility (e.g. DTE).
    e. Actively opening opportunities to gain access to more experts, beyond staff.
        - Example: Suttons Bay & Northport partnering with Watershed Center to update ordinances, site plans and permitting process to make it easier for developers to choose Low Impact Design.
    f. Offering interjurisdictional leadership particularly with the urban townships, school districts and the County.
        - One interviewee offered, *What about an annex for affordable housing?*

6. **Sticks** (not Carrots) – The purpose of the interviews was to focus on incentives rather than restrictions, however it was pointed out several times that "sticks" can be ok! As long as they are applied evenly and clearly. A couple specifics were mentioned:
    a. Requiring "Above Code" requirements for specific categories such as publicly funded projects. These can range from density to energy efficiency to stormwater requirements.
    b. Another example, though perhaps inadvertent, is the cost of staging construction equipment downtown. A City Lot space costs $44/month to rent versus the cost to bag and fence a DDA space is $12/day making it prohibitively expensive to stage equipment in these areas.

Policy Brief

DATA DRIVERS

The Problem – Background

A powerful tool in achieving energy efficiency in the affordable multifamily market is benchmarking and transparency of buildings' energy data use. Benchmarking means measuring a building's energy use and then comparing it to the average for similar buildings. Due to the split utility cost responsibility between tenants and owners, accessing data for multifamily housing is difficult. While a privacy waiver for utility data is required as part of the Michigan State Housing Development Authority (MSHDA) utility allowance program to calculate utility allowances, data is not readily used to make decisions in the multifamily housing industry. While some data can be accessed, there is no streamlined approach for affordable multifamily housing in Michigan.

Policy-Based, State-Wide Solutions for Michigan

Utilizing building energy performance data has emerged as a successful policy tool to lower operating costs, improve living conditions, and motivating building energy performance improvements. Without knowing the energy use of the entire building, owners have a difficult time quantifying the likely impact of energy saving opportunities on their bottom line. The ideal policy for overcoming energy data access and use issues will be driven by collaboration among utilities, the Michigan Public Service Commission (MPSC), MSHDA, and the users (i.e., owners, property managers, and tenants). Solutions identified through the course of this initiative include:

1. **Landlord Portal:** Consumers Energy and Detroit Edison (DTE) the two largest utilities in the State of Michigan currently have landlord portals allowing building owners access to whole building data. No other utilities in Michigan have landlord portals. The existing landlord portals were developed by Consumers Energy and DTE as a customer service tool to help landlords manage their building accounts. These models provide easy access with strong privacy protection and should be replicated by all utilities in Michigan. The MPSC should encourage, organize, and/or direct utilities to offer data access via an individual or a single, multi-utility landlord portal. Alternatively, Consumers and DTE should work to help other utilities establish their own portals.
2. **Statewide Collaboration:** Consumers Energy has an ongoing dialogue with MSHDA regarding data access and the calculation of utility allowances. It would be beneficial to have all Michigan utilities and the MPSC come together with MSHDA to discuss approaches to responsibly expand and streamline data access for multifamily housing in regards to energy efficiency policy.
3. **MSHDA Policy:** MSHDA should consider changes to their utility allowance policies that will motivate building owners / property managers to more accurately benchmark their buildings. MSHDA completed a successful benchmarking pilot in 2014 to streamline the approach. This new approach should be replicated, used for public (Housing Commissions) and subsidized multifamily facilities, and will allow building owners / property managers to more accurately calculate their utility allowance potentially increasing revenue, while also increasing tenant comfort.

4. **Training:** Currently MSHDA owners / property managers calculate utility allowances and can set up landlord portals, but most owners / property managers do not know how to analyze data, benchmark buildings, and use the data to make decisions. Training is necessary for owners / property managers to understand how to set up and use landlord portals for data access and how to utilize data to make decisions on monitoring building performance and rehabilitation choices.
5. **City-Level Ordinances:** City-level ordinances for building benchmarking and energy cost transparency at lease-signing currently exist in the City of Ann Arbor. Ordinances in other cities (e.g., Grand Rapids, Detroit, Lansing) should be pursued to increase energy use awareness at the tenant and building level.

Other Considerations

In addition to these policy recommendations, we also identified a potential to expand city-level ordinances existing in the City of Ann Arbor to provide transparent access to energy data and costs at the signing of a lease to the largest metro areas in Michigan (e.g., Grand Rapids, Detroit, and Lansing). These ordinances would need local city leader support and should be discussed on a case by case basis.

Project Background

These policy options were developed by an independent team of experts in the field of housing and energy efficiency. They were brought together as part of a network of individuals and organizations working to improve energy efficiency in multifamily housing in Michigan. Partners include: Community Economic Development Association of Michigan (CEDAM), Ecology Center, EcoWorks, Energy Foundation, Michigan Energy Options, Michigan Environmental Council, Elevate Energy, National Housing Trust, and Natural Resources Defense Council.

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Policy Brief

THE SPLIT INCENTIVE

The Problem – Background

In a majority of multi-family rental properties, utility expenses are not covered as part of rent (72-83% nationwide). In these instances renters bear the monthly cost of natural gas, electricity and water, which eliminates a financial incentive for building owners to replace poorly performing, low efficiency equipment or upgrade the building envelopes. This so-called split incentive is a major barrier to making energy efficiency improvements in multi-family housing.

Policy-Based, State-Wide Solutions for Michigan

The ideal policy for overcoming the split incentive would be a transparent program that includes both landlord and tenant incentives, creates durable energy and cost savings, and addresses program costs primarily through savings. Solutions identified through the course of this initiative include:

1. **Labeling:** Supplying expected energy costs to potential renters at the time of rental. In markets where housing supply exceeds demand, the true cost of renting can drive efficiency upgrades as renters choose low cost housing. In Michigan's affordable housing market demand outpaces supply, which limits the impact of this policy.
2. **Building Codes:** Updating building codes to mandate high efficiency improvements for new building stock. Building codes can improve building performance considerably, however the upfront cost of efficiency improvements could be unpopular and increase rents thereby pricing out low-income tenants.
3. **Utility Rebates:** Expanding utility-based energy efficiency rebate programs to tenants in addition to property owners. Rebate programs exist in many forms, but are typically accessible to building owners or managers only. The major drawback to an expanded rebate program is the complexity of managing unit-by-unit upgrades.
4. **"Bill Neutral" Financing:** Using a third party "market maker" or on-bill financing. This type of financing can be an especially attractive option as it allows for longer pay back periods than building owners typically are willing to accommodate. Additionally, on-bill financing can allow for "bill neutral" efficiency upgrades that do not cost tenants in the short term but allow for savings in the long term. Drawbacks to on-bill financing include tenant education when transferring "debt" to new tenants and securing regulatory approval in the case of a tariff-based program.
5. **Communicating Owner Benefits:** Appealing to owners' long-term interests. The benefits of energy efficiency upgrades include increased property values including an ability to borrow against the increased value, reduced tenant turnover, and improved non-energy benefits such as pest control. A policy that makes property owners aware of the long-term benefits and helps them access these benefits could also help overcome the split incentive issue

Other Considerations

In addition to these policy recommendations, we also identified a need to clarify and segment marketing efforts to address the specific interests and needs of building owners, investors, and property managers independently.

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Policy Brief

TRAINING AND EDUCATION

The Problem – Background

While many multifamily affordable housing developers and owners in Michigan are interested in energy efficiency, they don't necessarily have a clear understanding of the many benefits of and business case for making energy efficiency improvements. In addition, retrofitting developments may have significant up-front costs that at first appear to only benefit the tenants, whereas the benefits to the developer/owner may be less clear. Education and training may seem to be a logical answer, but entities offering training struggle with funding the training and having appropriate levels of participation due to a number of issues. In addition, developers of tax credit properties indicate they don't necessarily want to learn the details: they simply want to know how to achieve more points on the Qualified Allocation Plan (QAP), which means they may receive tax credits, or simply have their contractors and architects help to integrate in additional energy efficiency measures. In short, developers need to know how this impacts their bottom line and makes financial sense.

Policy-Based, State-Wide Solutions for Michigan

The ideal policy for addressing training and education issues includes a variety of solutions, including potentially incentivizing or rewarding developers for increasing their knowledge base, changing state policy, and better sharing information and data. A non-exhaustive list of ideas includes:

1. **Develop Case Studies:** Develop and/or provide high-quality, relatable case studies (both local and national) of affordable multifamily properties that have successfully implemented energy efficiency improvements. Developers need to hear and see specific examples of energy-efficient developments that share similarities with their projects, as well as see evidence from larger data pools.
2. **Communicate Benefits:** Broaden the dialogue about the business case for energy efficiency to include a wider array of benefits that ultimately impact the bottom line. These benefits include lower operation and maintenance costs, reduced water usage and sewer costs, improved tenant health and comfort, community buy-in, and more, which ultimately impact vacancy rates and the development's bottom line.
3. **Widen the Training Pool:** Consider increasing the training pool to include and partner with more architects and contractors, as developers are receiving a significant amount of information from these groups.
4. **Expand the QAP:** Work with MSHDA to modify the QAP to allow for additional points if a member of a project's development team holds some type of green certification or has attended specific energy efficiency trainings geared toward multifamily buildings.
5. **Improve Communication:** Work to increase the dissemination of energy efficiency information by sending it out through multiple channels, including through trade associations, MSHDA, MEDC, financial institutions and other means including word of mouth through other building owners.

6. **Diversify Training:** Provide a variety of training mechanisms, including in-person, online, podcasts, webinars and via other means. Continue to research existing local, national and state opportunities and fill gaps.

Other Considerations

While the team assembling these recommendations represent segments of the energy efficiency and development community, this is by no means an exhaustive representation of the community. Any recommendations should be further vetted with a larger group.

Project Background

These policy options were developed by an independent team of experts in the field of housing and energy efficiency. They were brought together as part of a network of individuals and organizations working to improve energy efficiency in multifamily housing in Michigan. Partners include: Community Economic Development Association of Michigan (CEDAM), Ecology Center, EcoWorks, Energy Foundation, Michigan Energy Options, Michigan Environmental Council, Elevate Energy, National Housing Trust, and Natural Resources Defense Council.

Policy Brief

PROGRAM DESIGN

The Problem – Background

Michigan utilities currently offer a variety of programs for multifamily buildings, some specifically targeted to the sector and others designed for single-family residential or commercial customers. However, in order to achieve the significant remaining energy savings potential in multifamily buildings, Michigan will need an increased level of investment in the multifamily sector as well as tailored, innovative programs designed to meet the unique needs of multifamily building owners. It is especially important to tackle the unique barriers faced by affordable multifamily buildings, where 60 percent of Michigan's multifamily households live.

Policy-Based, State-Wide Solutions for Michigan

Enlisting all of Michigan's utilities to develop innovative strategies that can motivate owners to undertake comprehensive whole-building energy savings will be necessary to realize the significant energy savings and other benefits that can be achieved in the sector. Policies that require energy optimization programs to equitably serve multifamily customers, set energy savings goals based on lifetime savings, create consistency and transparency throughout the state, and address existing barriers will be imperative.

1. **Utility Sector Representation:** Direct utilities to equitably serve multifamily customers relative to their representation in the housing stock to create a specific program for multifamily affordable housing (MFAH).
2. **Whole-Building Approach:** Currently, utility return-on-investment goals are set only for first-year energy savings and discourages them from installing higher-cost but longer-lived and more cost-effective measures with deeper savings and greater benefits to low-income residents. Develop a whole-building incentives approach which targets comprehensive savings and addresses additional measures that exist beyond the "low-hanging fruit" implemented to date in the direct install programs. Additionally, support benchmarking, audits and other assessments to reinforce these efforts.
3. **Utility Collaboration:** Develop a mechanism to promote utility collaboration which allows for consistency in multifamily affordable housing program details and incentives across utilities. Assure coordination and count savings across electricity, gas and water programs. This could result in a "one-stop shop" concierge service provider for the sector, with lessons learned from current pilot in Lansing and other best-practice programs. Develop standards for robust quality assurance.
4. **Consistent Outreach:** Develop a dedicated outreach salesforce, specific to the multifamily affordable housing sector in order to drive participation, education and awareness of an enhanced program. This approach can reinforce the consistency of message and overall program delivery while building partnerships with key local market players.
5. **Engage Funders**: Create incentives for the engagement of multifamily affordable housing sector lender/funders. Bringing them into the process, and aligning goals between utilities and state agencies/organizations can reduce conflicts and increase participation and overall investment. This may also assure incentives are available at

project outset, which is a key consideration and fundamental barrier. Furthermore, on-bill financing strategies or other collaborations could serve to benefit all constituencies.

6. **Training and Education:** Provide more comprehensive training and education programs for facilities staff and residents of multifamily affordable housing. Behavior response programs could result in additional savings. An additional opportunity is providing an enhanced set of open source tools and resources (with training) to elevate the private sector and reinforce efforts.

Other Considerations

Capturing the efficiency potential in multifamily housing enables utilities to meet energy savings targets, reduce system costs, defer or avoid distribution system upgrades, and reduce marginal line losses. The cost of obtaining these system benefits delivers value directly back to customers —increasing the value of the building stock, reducing expenses, improving the health and safety of tenants, and more.

Project Background

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References

Energy Efficiency For All (EEFA)'s *Program Design Guide: Energy Efficiency Programs in Multifamily Affordable Housing.*

Policy Brief

FINANCING

The Problem – Background

By upgrading appliances and upgrading buildings to make them energy efficient, multi-family rental properties can reduce energy costs by 20-30%. While saving money is an obvious benefit of making energy efficient upgrades, many property owners are hesitant to make the changes, discouraged by the high upfront costs required for making improvements. Additionally, utility expenses are usually borne by renters and not owners, eliminating the financial incentive for building to make improvements (split incentive). Finally, building owners are eligible for tax credits through Qualified Allocation Plans. However, Michigan's QAP emphasizes keeping costs low in the short term and therefore is not currently set up to reward longer term investments in energy efficiency.

Policy-Based, State-Wide Solutions for Michigan

The ideal policy for overcoming the financial barrier would be a transparent program that provides financing to property owners with easy-to-understand repayment methods that place little economic burden on the owner. Solutions such as these will allow property owners to have access to many technologies that were previously out of their fiscal reach. While some of these policies currently exist, improvements and coordination of programs must be done in order to address the issue effectively, along with education of the decision makers to help them navigate the complexities. The following policies are possible solutions.

1. **On-Bill Financing:** On-Bill financing allows a customer to pay for energy efficient improvements with the help of loans. These loans are then paid back over time and charged directly on their utility bill. Often the loan payments each month are less than the energy efficiency savings each month, meaning that the customer can actually realize some monthly savings. A program such as this opens the door to many energy efficient technologies that were previously out of reach. Costs and savings are passed on to renters keeping costs low for building owners, helping solve the split incentive problem.
2. **Property Assessed Clean Energy Financing (PACE):** PACE allows a customer to assess which energy saving measures work best for their multi-family rental properties and gage how much the project would cost. PACE then provides 100% of financing needed to get the project done, with the requirement that the loan is repaid over the timespan of 20 years, applied directly to the customer's property tax bill. Over time, the energy savings should become equal to or greater than the loan payments every month. Unlike traditional capital improvement investments, PACE allows for 100% financing and can be spread out over 10-20 years (instead of the usual 3-5 years of a traditional business loan), making the projects cash neutral. PACE is a good solution for large scale projects and for projects over $250,000. The energy savings must be guaranteed. However, for smaller projects, the fees associated with PACE loans may be cost prohibitive. PACE enabling legislation has been adopted in Michigan (PA270 of 2010), however, counties and municipalities must adopt PACE ordinances for property owners to utilize the program. For projects under $250,000, Michigan Saves is a financing program currently offered to the multifamily housing sector that provides financing from $2,000 to $250,000 to owners for their energy improvement projects. It offers an option

of capital leases for financing, with a $1 purchase option at the end of the term. The owner can take the title of the property either at the start or the end of the lease. This option allows the owner to conserve money and can provide tax advantages. Utilities offer rebates and other incentives to encourage owners of multifamily units to commit to a Michigan Saves project.

3. **Increase energy efficiency tax credits under the Qualified Allocation Plan (QAP):** The Qualified Allocation Plan is used to allocate Low Income Housing Tax Credits (LIHTC), which is credit directly applicable against taxable income. This is used as an incentive for property owners of multi-family housing units. Property owners apply and are then given points through the QAP to determine how many LIHTC they will receive. Points are given in many categories, including green policy, which encourages property owners to make green changes in order to receive more points and be awarded more LIHTC. By increasing credits for energy efficiency investments and eliminating penalties for short term cost increases, building owners could be incentivized to make significant improvements to their building stock.
4. **Strengthen Utility Relationships with Community Development Financial Institutions (CDFIs):** CFDIs are mission-driven financial institutions that provide loans and other financial services to communities that are otherwise underserved by other financial establishments. Utility companies that aim to provide loans to the multifamily housing sector for green improvements would benefit by strengthening relationships with CDFIs. A CDFI can rely on the utilities to provide valid information, assessments, guidance, oversight and savings reports. This leads the CDFIs to have confidence in the projects, making them more likely to provide financing.

Other Considerations

Significant education is needed for building owners and for the housing community. Building owners need to understand the long term financial benefits of energy efficiency investments and how the financing tools work. PACE is already authorized under state law and many communities are now adopting PACE ordinances, but the widespread utilization of PACE financing will only happen if the program is understood by building owners.

MSHDA (Michigan State Housing Development Authority) provides both technical and financial assistance to create safe and affordable housing by selling bonds and notes, the proceeds of which are then loaned at below-market interests rates to developers to pay for improvements. A goal should be to coordinate utility options with MSHDA financing cycles so as to make the improvements as inexpensive as possible.

For the housing community, education is necessary to understand the broad impacts that the reduction of energy costs will have on renters. Without this broad education, the long term changes to create major energy efficiency incentives under the QAP will be difficult.

Utilities must also play a role in connecting applicants to low-cost financing. This can be done through one-stop assistance programs which connect applicants to all the resources they need to complete energy improvement projects. The options of low-or no-interest loans must also be considered for some owners.

Project Background

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include: Community Economic Development Association of Michigan (CEDAM), Ecology Center, EcoWorks, Energy Foundation, Michigan Energy Options, Michigan Environmental Council, Elevate Energy, National Housing Trust, and Natural Resources Defense Council.

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Policy Brief

STATE POLICY

The Problem – Background

Affordable rental housing is critical for low-income Michigan residents, but many apartments are in need of repair and come with higher energy bills. Increasing the energy efficiency of rental housing reduces energy waste, improves resident health, and maintains reasonable rents. Additionally, improving the efficiency of these buildings helps Michigan meet its energy savings and carbon reduction goals, and contributes to the preservation of the state's affordable housing stock.

Policy-Based, State-Wide Solutions for Michigan

There are numerous ways to improve energy efficiency in multifamily units that provides the benefits of reducing carbon emissions, as well as helping reduce expenses for tenants, building owners, and utilities.

MICHIGAN FAMILIES

- Reduces the burden of energy bills for Michigan renters, 50.3 percent of whom spend more than 30 percent of their household income on rent and utilities
- Creates healthier, more comfortable living environments that can reduce instances of illnesses like asthma, which can be a major driver of missed work and school days

MICHIGAN COMMUNITIES

- Improves local economies by creating clean energy jobs (recent studies have found that energy efficiency jobs comprise 55 percent of clean energy jobs in Michigan) and allows residents to dedicate spending to other non-energy necessities
- Reduces operating costs for affordable building owners, freeing up capital for preserving Michigan's affordable housing stock

MICHIGAN UTILITIES

- Helps utilities meet the annual electric and gas savings targets established by Michigan's Clean, Renewable, and Efficient Energy Act
- Builds goodwill with the more than 414,000 households in Michigan that live in affordable multifamily homes by improving the buildings they live in
- Reduces bill payment issues and related costs to utilities by lowering the energy bills of low income customers
- Has the potential to make a significant contribution to the energy efficiency portion of Michigan's Clean Power Plan strategy for reducing carbon pollution 31 percent by 2030

Recommended Policy

Legislative and Regulatory

- **Utility-based Energy Optimization Program:** Ensure that utilities equitably serve multifamily customers through their energy optimization programs. The current PA 295 legislation requires utilities to include program offerings for each customer class, but flexibility to vary the amount of effort and funding devoted to each class. Since multifamily customers do not have their own class, they are at risk of being underserved. As new

legislation gets debated, we want to ensure there is fair savings goals allocated for multifamily low-income.

- **Data Access:** Require utilities to provide building owners with access to aggregate building energy use data
- **Whole-Building Approach:** Set energy savings goals based on lifetime energy savings rather than first-year savings to encourage comprehensive whole-building program design.
- **Using Energy Efficiency as a Resource:** Increase Michigan's capacity to harness energy efficiency as a resource.
  - Increase the energy efficiency standard
  - Remove the 2% cap on utility energy efficiency spending
  - Support decoupling for both electric and gas utilities

Michigan State Housing Development Authority (MSHDA) QAP Process

- **Contain Costs in QAP Scoring:** Local requirements and upfront energy efficiency costs end up penalizing projects on QAP points. Explore how this might be addressed in the QAP scoring process
- **Green Criteria Standards and Incentives:** Consider whether or not the green criteria standards and incentives in QAP are the right ones. There should be more input from the energy industry on this issue.

Other Considerations

Currently, Michigan is undergoing a re-write of its state energy policy. Both the House and Senate bill packages are considering changes framed around protecting ratepayers and having an adaptable energy Plan. However, both packages offer serious threats to this work, by allowing the current Energy Optimization savings programs to sunset at the end of 2015, and allowing utilities to opt out of cost ramps through the MPSC.

Project Background

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seeds
Energy & Environmental Analysis

Comments on City of Traverse City Master Plan

> *Tim Ervin specifically sees room for Michigan to take a leading role on getting Master Plans to include important yet missing priorities like Social Health, Transportation, Energy, and Housing Availability, emphasizing that these Plans should be data driven and comprehendible.*

Based on the timing of the City's Master Plan review process, Russ Soyring suggested SEEDS offer comments on the current Plan documents as relate specifically to smart energy management. There are many elements of the current Master Plan that support focusing attention and resources into smart energy management principles and practices. Depending on the City's chosen path for Master Plan amendment, adding more specificity in this regard and also including strategic, measurable, actionable, reasonable, and time-determined goals may be worth considering.

Elements and goals supportive of community energy management include the following:

Capital Improvement Element: Goal 1, *Prioritize projects that most directly benefit public health and safety, the local economy, and the local government* strongly supports a strategic energy management approach. In the broadest sense, global greenhouse gas emissions (largely driven by energy production) have direct impact on public health and local economies through shifts in climate and weather patterns. In this context, giving priority to projects that reduce or negate the City's impact on these global patterns is a long-term strategy for public benefit.

More immediately and locally impactful are the financial impacts of smart energy management that produces savings on utility bills and creates sustaining local jobs. Both *financial and job projection impacts are quantifiable* and positive effects can often be felt in time horizons of under five years (quantified local projections have been made in the past by SEEDS using the LEEP-C tool and results can be refined to the County level, see attached excerpt). These strategies can be as simple as incentivizing utility bill disclosure within a sector (e.g. public, commercial, residential) and as complex as investing in financing strategies for extensive renovations.

Goal 2, *Invest in energy efficient design and construction when cost-effective over the life of the improvement,* is repeated and further clarified in the Economic Element below demonstrating that the City already recognizes the economic impact of Capital Improvements and identifying the CIP as a key tool.

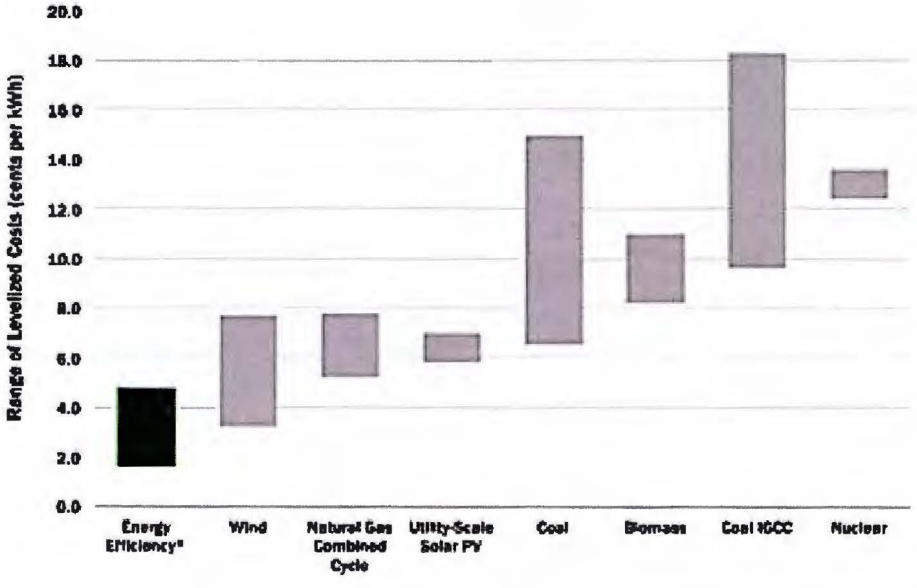
Additional comments on the City's CIP have also been provided (see attached).

Economic Element: Defining *economic development* and the metrics by which the City prioritizes projects makes a difference in the type of development the City will attract. This could be an

opportunity to provide aspirational building standards for City controlled buildings and/or for new residential construction such as Energy Star, Net Zero, Passiv Haus, Living Building.

Defining the metrics by which the City prioritizes projects and capital improvements, especially when making forecasts covering the 'useful life of a project' and detailing operational and maintenance considerations, should absolutely take energy management strategies into account. *Adding language to prioritize and mandate higher performing equipment and materials* (e.g. Energy Star certified) using a reasonable financial buffer (e.g. additional initial cost of up to 10-20%, or based on a specified Internal Rate of Return), can help staff practice purchasing that will lead to lower costs over the useful life. A simple example is the use of LED fixtures, though a more expensive investment at first, resulting in significant savings of their useful life – returning the initial capital costs often within two years – both in terms of electricity bills and in reduced maintenance.

Public Utility Element: This section specifically calls for multi-department coordination and collaboration identifying primarily natural resources management, utility providers and other governmental entities. The **Electric Element** asks for user rates to be kept as low as possible. As demand for electricity grows and as contracts for power are negotiated, it behooves decision makers to challenge the utility to *re-double the promotion of efficiency measures*. As shown in the graph below, the lowest cost kilowatt is the kilowatt not used and the price of negating the need for a kilowatt is extremely competitive 2-3¢ per kilowatt-hour (kWh) of electricity saved (over the lifetime of the implementation).



* Source: Energy efficiency program portfolio data from Molina, *The Best Value for America's Energy Dollar: A National Review of the Cost of Utility Energy Efficiency Programs* (Washington, DC: ACEEE, 2014) http://aceee.org/research-report/u1402. All other data from Lazard 2015. https://www.lazard.com/media/2390/lazards-levelized-cost-of-energy-analysis-90.pdf. High-end range of coal includes 90% carbon capture and compression.

Natural Resources Element: This section calls for the City to view natural resources as valuable community assets – to be thoughtfully managed and appreciated in a fashion integrated with other Capital Improvement planning and with other City departments. It also gets deeply into **water conservation and management leadership**, and while tying water management with energy

management is still less common in Michigan as we live in an abundance of freshwater resources, it is no less important to do well here than it is in desert states. The State Energy Office recognizes water conservation strategies as part of smart energy management especially because of the direct energy implications of heating potable water and of sewage treatment. This Master Plan section strongly supports this view.

Protecting landforms bolsters the argument to cluster new development with existing infrastructure.

While the entire section provides strong incentive to engage in energy management, the goal of **Protecting local and regional human and ecosystem health** and the objectives that follow are perhaps the most robust in support, asking the City to work on a formal local action plan to reduce greenhouse gas emissions – specifically including partnership with energy providers – and to seek funds for implementation. *How might SEEDS help with follow through on this goal in the coming year?*

Transportation Element: This section also calls for many activities that would reduce greenhouse gas emissions by reducing dependence on single occupancy automobiles. Already having a baseline of transportation related emissions, the City could *choose to set a specific target for reduction*. Many of this section's elements are also shown to be non-traditional, yet significant, economic drivers according to the 2016 report from Public Sector Consultants and the Michigan Municipal League including:

- *Physical Design & Walkablity,* "Mixed use, walkable downtown developments generate ten times as much tax revenue per acre and save almost 40% on up front infrastructure costs, and result in about 10% lower costs for service delivery."
- *Multimodal Transportation Networks,* "Residential property values increase based on proximity to bus or transit stops, as much as 150%."
- *Environmental Sustainability,* "Seventy percent of communities' green infrastructure assets, such as wetlands, water or trails, have a positive impact on population, income and employment levels."

seeds

Energy & Environmental Analysis

Traverse City Capital Improvement Plan Comments

Overall Comments: The CIP is an excellent planning tool and well suited for helping focus capital investment activities on smart energy management. Examples of CIP strategies that include this energy management focus include:

- *New York State Department of Environmental Conservation provides information on cost savings from green building practices, offers a review of the CIP, and provides capital cost incentives calculated using energy performance and technical assistance. This is provided on a cost-shared basis.* **http://www.dec.ny.gov/energy/64322.html#Existing**
- *Cal State's Capital Outlay Programs has a preface that includes very specific language on measurable guidelines for energy efficiency:* All future CSU new construction, remodeling, renovation, and repair projects will be designed with consideration of optimum energy utilization, low life cycle operating costs, and compliance with all applicable energy codes (enhanced Title 24 energy codes) and regulations. The CSU requires new construction projects to outperform Title 24 by a minimum of 20 percent when connected to a central plant facility; 15 percent when stand alone. The compliance standard for renovation projects remains unchanged at 10 percent in recognition of the constraints of an existing configuration. Progress submittals during design will be monitored for individual envelope, indoor lighting, and mechanical system performances. Similar to the Seismic Review Board, the CSU has established a Mechanical Review Board (MRB) consisting of a panel of experts to provide system wide peer review and consultation on individual capital projects to assure that performance goals are met and sustainable policies adhered to. **https://www.calstate.edu/cpdc/Facilities_Planning/2013-14-Five-Yr-CapImprovementPgmBk.pdf**
- *As part of its planning process for new capital projects greater than $2 million, Alcoa developed a comprehensive energy efficiency questionnaire to help employees identify opportunities for energy savings and avoid locking in energy waste when purchasing long-lived capital assets.*
  https://betterbuildingssolutioncenter.energy.gov/sites/default/files/tools/Alcoa%20Questionnaire%20Screens%20Capital%20Projects%20for%20Energy%20Waste.docx

Lighting

Comments: Consider specifying LED fixtures in all listed projects. If no trenching is planned for other infrastructure needs, consider off-grid solar-powered fixtures, which tend to be cost competitive where no trenching is otherwise required. If significant lighting is replaced at once or in a coordinated way, the could create opportunities to aggregate bulk purchasing and create attractive finance package(s).

Corollarily, consider updating Dark Sky compliance expectations to BUG (Backlight, Uplight, Glare) best practice using the template found here: http://darksky.org/our-work/public-policy/mlo/ In addition to electricity savings, implementation also supports Air Quality. Every night, chemicals from vehicle exhaust and other human created sources are broken down and prevented from becoming smog, ozone, or other irritants by a form of nitrogen oxide called the nitrate radical. Sunlight destroys the naturally occurring nitrate radical, so this process occurs only in hours of darkness. A 2010 study by NOAA and CIRES found that outdoor lighting that contributes to sky glow over cities also interferes with chemical reactions that naturally clean the air during nighttime hours.

872 - PARK-Hall Street Beach (+Grant)
Bayfront Plan: Playground area, access ramps and mobility mat, reconfigured parking lot, bathhouse/restroom facilities, accessible trails and walkways, seating, trash receptacles, landscaping, **lighting,** planter boxes, bicycle parking
Submitted by: Russ Soyring
Allocation:

Amount	Year
$1,545,499	2021/2022

3 - PARK-Hannah Park improvements (+Private +BBTF)
Decorative **lights** will replace barn style lights.
Submitted by: Lauren Vaughn
Allocation:

Amount	Year
$80,000	2016/2017

874 - PARK-Con Foster Commons (+Grant)
Bayfront Plan implementation: The phase includes the construction of a series of new vendor structures around a plaza will provide a framework for the desired venue, an ice skating area, seating, bicycle racks, drinking fountains, **lighting**, sound wall, landscaping and enhanced walks. It also includes the demolition of a marina storage building, reconfigured marina parking lot area.
Submitted by: Russ Soyring
Allocation:

Amount	Year
$1,813,762	2021/2022

61 - STREETS-Cass & Lake: Streetscape Improvements (+SID) (+L&P)
Approximately 813 feet of streetscape improvements on Cass and Lake Streets. Improvements include trees, curb & gutter, benches, trash cans and other improvements. **Light and Power Board approved participation in the amount of $350K for street lighting in conjunction with planned streetscape.** Project approved by Planning Commission for consistency with Master Plan on 2/7/12.
This project needs to be coordinated with the Midtown Water Transmission Line #115 project included in the Water Fund.
Submitted by: Karla Myers-Beman
Allocation: $350,000

63 - STREETS-Garland Street Reconstruction/streetscapes (+L&P)
Redirect Garland Street from Grandview Parkway to Union Street on the east end; provide a shared space street for pedestrians and motor vehicles. **The City will request participation from Light and Power regarding street lighting.** Project approved by Planning Commission for consistency with Master Plan on 7/20/11.
Promote economic development in the Warehouse District. -Maintains or improves existing infrastructure or facilities
Submitted by: Russ Soyring, Karla Myers-Beman
Allocation:

Amount	Year
$1,315,000 (TIF 97/ DDA)	2016/2017
$200,000 (TCLP)	

33 - PARK-Lay Park Improvements (+Private + BBTF)
Upgrades to Lay Park will include the following: brick and concrete central plazas with raised location for Lay memorial boulder; concrete sidewalks (approx. 200 l.f. 6' wide); site furniture, 8 benches, 4 trash receptacles, bike racks, drinking fountain, landscaping and lighting,(**10 light fixtures**). Park neighbors are organizing a fundraising campaign to raise half of the park project costs with the rest to come from the Brown Bridge Trust Parks Improvement Fund.
Submitted by: Lauren Vaughn
Allocation:

Amount	Year
$60,000	2016/2017

829 - TCLP - UPGRADE FRONT STREET LIGHTING AND RECEPTACLES
Upgrade circuit to accommodate increased load and will consist of new conduit, wire and addition of event outlets.
Submitted by: Karla Myers-Beman
Allocation:

Amount	Year
$1,340,000	2019/2020

818 - TCLP - HIGH PRESSURE SODIUM TO LED SYSTEM REPLACEMENTS
Removal of any old high pressure sodium yard lights
and replace with LED lights.
Submitted by: Karla Myers-Beman
Allocation:

Amount	Year
$215,000	2016/2017

Building Energy Efficiency and Designing for EO

781 - CIVIC-Farmers Market
Upgrade electrical outlets, accommodate tent tie-downs, install a central shelter, re-pave the lot with a decorative surface
Submitted by: Rob Bacigalupi
Allocation:

Amount	Year
$400,000 (TIF 97/ DDA)	2017/2018
$135,000 (Parking)	

Comments: Consider ensuring Central Shelter is Solar Ready should it prove useful to panel it with renewables. If doing so, ensure capacity to tie these to the existing grid or use of power generated to directly offset electric used during the market.

646 - CIVIC-Public Restrooms at Lot O
Provide public restroom for shoppers and other visitors in Downtown
Submitted by: Rob Bacigalupi
Allocation:

Amount	Year
$316,000	2021/2011

Comments: There are a variety of opportunities for designing with energy efficiency in mind - especially in a 4-season context. E.g. Building envelope, natural lighting, off-grid composting toilets, etc.

938 - FACILITIES-517 Wellington Building
We have identified budgeting approximately $150,000 to perform additional investigations, roof retrofit, and mold remediation for this building and site. We believe that site modifications are necessary to improve the site drainage and avert further building damage from water and can be included in this amount. It is best if this work is coordinated with any future improvements.
Submitted by: Tim Lodge
Allocation:

Amount	Year
$150,000	2017/2018

Comments: Roof retrofitting is a prime opportunity for adding insulation as is any foundation improvement work.

924 - FACILITIES-Carnegie Building Improvements
Replace existing freight elevator with ADA compliant unit. Construct dividing wall on main level for added security and to improve separation between areas of the building. Replace undersized building sewer line. Make improvements and upgrades to the HVAC system.
Submitted by: Penny Hill
Allocation:

Amount	Year
$220,000	2016/2017

Comments: Before replacing HVAC ensure that all opportunities for insulation and air sealing have been exploited. This work frequently reduces the BTU demand of heating and cooling and reduces equipment costs.

937 - FACILITIES-Carnegie Building Maintenance
Sewer, tuck/point, window replacement
Submitted by: Tim Lodge
Allocation:

Amount	Year
$75,000	2018/2019

Comments: Are all faucets low-flow fixtures to minimize sewer out-flows? What are the goals of window replacement (e.g. improved aesthetics or performance)? Are there standard specifications for City windows, e.g. Energy Star or other energy performance rating? http://energy.gov/energysaver/energy-efficient-windows

772 - FACILITIES-Engineering Department Heat and remodel
Looking at heating and remodeling plans.
Submitted by: Penny Hill
Allocation:

Amount	Year
$30,000	2017/2018

Comments: Seems like a planning opportunity to maximize efficiencies and utilize utility of Energy Optimization incentives.

142 - FACILITIES-Opera House Heating System
Replace oversized boiler at City Opera House with heating system; possibly another boiler.
Submitted by: Rob Bacigalupi
Allocation:

Amount	Year
$65,000	2018/2019

Comments: SEEDS can help ensure that a new boiler system is correctly sized. Various methods designed to calculate heat loads are too often overlooked."Rightsizing" systems provides even more robust energy savings. The Opera House would realize additional decreases in EUI by actively monitoring energy use with Energy Star Portfolio Manager.

871 - FACILITIES-Senior Center building renovation (+Private)
Building Renovation- The Grand Traverse County Senior Center Network is presently housed at the city owned building at 801 E. Front Street in Traverse City. For some years it has been apparent that the facility is inadequate to meet the numerous uses and needs of our local seniors. This program is presently managed by the Grand Traverse County Commission on Aging.
The Center has over $200,000 in savings originally collected by donations to the center toward a new building and which the City Commission has agreed to release the funds for a building remodel. The City is budgeting for remodeling costs not to exceed $1,200,000. The funds required above the Center's savings will be raised by donations from groups and individuals in the community.
Submitted by: Commission on Aging
Allocation: $1,200,000.
Comments: Remodeling is the perfect opportunity to examine current energy use patterns and plan for significant improvements as well as source funding options - including utility rebates. Frequently, improving a building envelope reduces the BTU requirements of the HVAC system. Equally common, energy efficiency upgrades also improve the quality of the user experience!

764 - WW-Window Replacement 503 Hannah Ave.
Replace original single pane windows and doors with new energy efficient windows and doors.
Submitted by: Justin Roy
Allocation:

Amount	Year
$30,000	2016/2017

Comments: Single pane windows definitely leak heating and cooling significantly. However, windows are frequently flagged for replacement even when other building envelope improvements may prove to have a higher benefit and return on investment. Worth a walk through if not an actual energy audit.

645 - PARKING-West Front St Redevelopment (BOND)
Submitted by: Rob Bacigalupi
Allocation:
Engineering/Design: $1,050,000
Construction: $10,300,000
Annual Maint. Cost: $220,000
Maint. Year Start: 2018
Comments: Consider participation in the Lighting Energy Efficiency in Parking campaign (LEEP): http://www.leepcampaign.org/
LEEP has helped U.S. Parking Facilities Cut Energy Use by 90 Percent: http://www.energy.gov/articles/us-parking-facilities-cut-energy-use-90-percent-switch-270-million-square-feet-energy

28 - PARK-Hickory Hills Lodge Replacement (Grant +Private +BBTF)
The current lodge does not meet current standard for accessibility along with outdated facilities of every type. Remodeling of the current lodge is not a viable option. A preferred location has been selected from the Hickory Hills Master plan completed in 2014. A joint City and Community effort will be needed to make this happen. We will be able to offer the facility for rent for various events during the non-ski season. Preserve Hickory, a local non-profit is conducting the fundraising for the match for the Brown Bridge Trust Park Improvement Fund.
Submitted by: Lauren Vaughn
Allocation:
2016/17 $1,600,000 (including Preserve Hickory Fund Raising $950,000.00)
Comments: This is an opportunity to implement energy efficiency standards for new buildings. If building is to be rented, nontoxic materials and energy efficient construction is a draw. The design phase is the easiest phase to plan for energy efficiency and renewable technologies. As buildings have a lot of embodied energy, taking a life-cycle cost perspective on construction and maintenance makes sense and can save significant dollars especially over the long term.

328 - PARK-Hickory Hills Maintenance Facility
Submitted by: Lauren Vaughn
Allocation:

Amount	Year
$50,000	2016/2017
$200,000	2017/2018

Comments: The design phase is the easiest phase to plan for energy efficiency and renewable technologies. As buildings have a lot of embodied energy, taking a life-cycle cost perspective on construction and maintenance makes sense and can save significant dollars especially over the long term.

929 - PARK-Hickory Hills Master Plan Improvements (BBTF+Private +Grant)
Submitted by: Lauren Vaughn
Allocation: $1,700,000
Comments: Should the City implement a clear Energy Efficiency policy with respect to its own infrastructure, consider incentivizing or requiring similar policies at locations the City financially supports.

Equipment and Vehicles

26 - GARAGE-Annual Vehicle and Equipment Replacement
The garage annually purchases new equipment, vehicles, and machinery to replace existing assets. These items to be replaced on an annual basis are based on cost effectiveness of ownership. This allocation will not replace all vehicles and equipment due for replacement. Older fleet is more expensive to maintain. Cost effectiveness is evaluated annually.
Submitted by: Dave Courtad
Allocation:

Amount	Year
$1,996,721	2016/2017
$1,865,926	2017/2018
$1,872,065	2018/2019
$1,448,700	2019/2020
$1,217,800	2020/2021
$1,222,500	2021/2022

Comments: The transportation sector is responsible for approximately ⅓ of the greenhouse gas emissions in Grand Traverse County. Consider fuel economy when scheduling replacements as well as when sourcing new vehicles. Consider carefully where a smaller vehicle can replace a larger vehicle. Also consider opportunities to utilize non-motorized vehicles instead. Alternative fuels may also be worth consideration including biodiesel (in various concentrations) and electric. Consideration of electric vehicles opens partnership opportunities with TCLP as well as options for use of golf carts and other smaller vehicles.

784 - GEN GOVT-Annual City Computers
Replacement of general computer hardware and software
Submitted by: Penny Hill
Allocation:

Amount	Year
$35,000	2016/2017
$30,000	Yearly after 2016/2017

Comments: Ensure that discarded hardware is recycled appropriately. For new equipment, consider Energy Star Computers:
https://www.energystar.gov/products/office_equipment/computers
Be sure that IT implements best practice power management controls as outlined by EPA here:
https://www.epa.gov/sites/production/files/documents/energy_policy.pdf

Other Interesting Projects

47 - CEMETERY-Install Cremation Niches in Mausoleum
Submitted by: Lauren Vaughn
Allocation:

Amount	Year
$20,000	2019/2020

Comments: Can the City suggest or insure that they are accepting remains from well-regulated crematoriums? The emission guidelines for human cremation equipment are first set at the Federal Level by the EPA. However, the actual compliance and permitting is done by the state, county, or city, depending which has the more stringent rules. (http://www.blcremationsystems.com/FAQRegulations.html) What are the local regulations or rules that apply to crematoriums? *Seems like the main concern is mercury vapor from the combustion of amalgam fillings.* (https://no2crematory.files.wordpress.com/2011/01/epa-response-to-congress-kucinich.pdf)

96 - GARAGE-Increase security/refurbish west and north sides of DPS building
Building has only been "refinished" once since purchased in 1982. Appearance to general public is getting poor. Also, addition of security measures including motor operated gates needed to secure facility better.
Submitted by: Dave Courtad
Allocation:

Amount	Year
$100,000	2016/2017

Comments: Facade upgrades offer opportunity for examining building envelope opportunities to increase comfort and/or reduce utility bills. Is there a cost-competitive opportunity for solar powered security improvements? E.g. a solar powered camera with wireless transmission does not require cabling, which can offer significant cost savings.

15 - STREETS-Traffic Signal Power Backup

Provide funding to install battery backup power systems in all signal equipment by 2022.- Maintains or improves existing infrastructure or facilities

Submitted by: Tim Lodge

Allocation:

Amount	Year
$135,000	(22,500 yearly from 2017 to 2022)

Comments: It is likely worth investigating off-grid options instead of or in addition to battery options for backup power. For example Lumi Solair products can provide clean power for any off-grid application such as telecom towers and backup power for traffic lights. http://www.lumisolair.com/node/25#overlay-context=

825 - TCLP - AUTOMATED METERING INFRASTRUCTURE

Install electric meters and software to will provide for the migration to electronic advanced meters that will assist utility customers on energy use, reliability and provide reads to utility billing. Will also drive future system engineering and planning as well as provide metrics on completed items to show project results.

Submitted by: Karla Myers-Beman

Allocation:

Amount	Year
$2,500,000	2016/2017
$2,500,000	2017/2018

805 - TCLP - COMMUNITY SOLAR GARDEN PHASE II

Installation of solar panels to provide up to 30KW of generation located at NMC Automotive Technology Building located in the Airport Industrial Park.

Submitted by: Karla Myers-Beman

Allocation:

Amount	Year
$80,000	2016/2017

Comments: Due to TCLP net metering policy as well as the upfront cost of panels, this project seems to be on indefinite hold. That does not mean that there are not other locations and other funding mechanisms worth researching to see solar installed within the City. The plans to build-out an Energy Demonstration Center at Historic Barns Park would be one example.

809 - TCLP - DISTRIBUTION CIRCUIT REBUILD

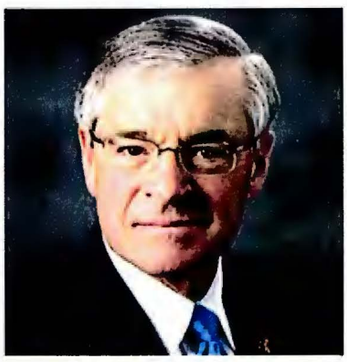
Replacing deteriorated overhead/underground facilities with new wire, conduit, poles, etc to include conversion of overhead facilities to underground as appropriate. Circuit BW-31, which includes the commercial corridor North of 8th Street between Barlow Street and Garfield Avenue ending at Peninsula/Center Road, will be completed in 2016- 2017. Future projects have been evaluated and currently the planned replacement schedule for future years are HL-21, PC-32, HL-33, CD-30 and HL-22 circuits.

Submitted by: Karla Myers-Beman

Allocation: $4,975,000 (675,00 in 2016/2017)

ENERGY ROUNDTABLE DISCUSSION & LUNCH

with George Heartwell
former Mayor of Grand Rapids



THURSDAY, OCTOBER 6, 2016

12 - 1 pm

at TCLP offices, 1131 Hastings Street

hosted by TC Mayor Jim Carruthers and
TCLP Executive Director Tim Arends

As Mayor for 12 years, George Heartwell led Grand Rapids to be among the most sustainable cities in the nation, including setting a goal to power the city with 100% renewable energy. This lunch is an opportunity for local leaders and city and TCLP staff to talk with him about successes, challenges, and lessons learned and how Traverse City can also be a leading sustainable city.

Lunch will be provided

Please RSVP to Jennifer at 231-922-4940 x201 or jstamour@tclp.org

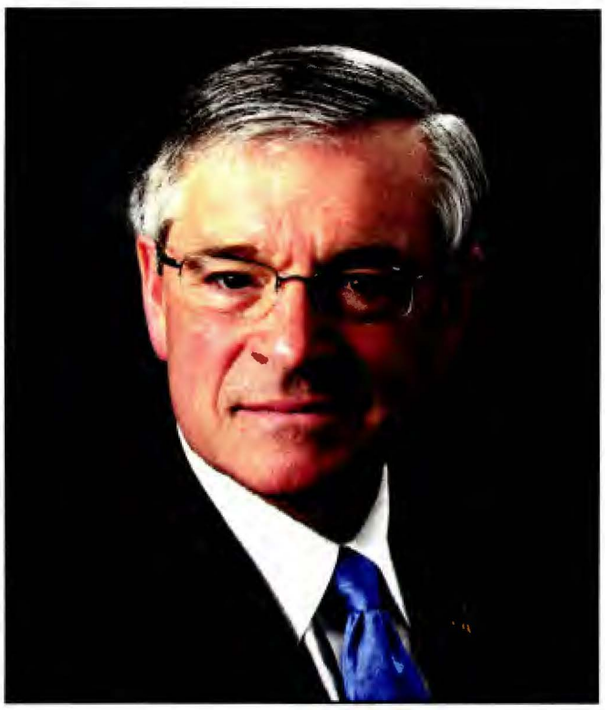
Beyond Paris:

International to Local Climate Solutions

Former Grand Rapids Mayor George Heartwell is coming to Traverse City to share his experiences at the Paris climate talks and to discuss how cities can take local action in the fight against global climate change.

THURSDAY, OCTOBER 6, 7-8:30pm

Central United Methodist Church
222 S. Cass Street, Traverse City



Early in his tenure as Grand Rapids mayor, George Heartwell saw the threat of climate change to his community and began working to mitigate climate impacts and to create a city infrastructure that will be resilient to those impacts. During his 12 years as mayor, Heartwell led the city to set a 100% renewable energy goal—the first in Michigan—and significantly reduce its carbon footprint through a variety of other measures.

Introduction from
Traverse City Mayor Jim Carruthers

There will be a closing panel discussion with Heartwell and local leaders.

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