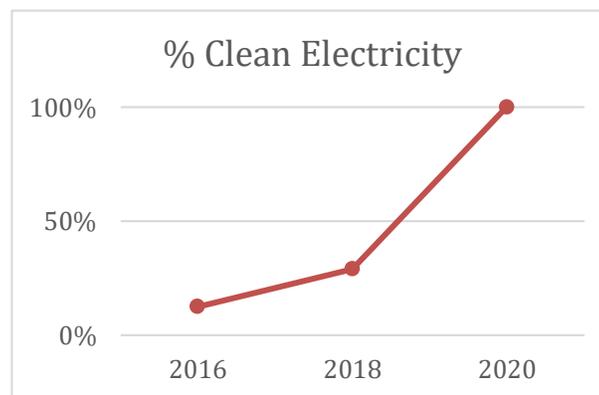


Green Team Summary Report 2017 – 2019

Overview: 100% Renewable Electricity by 2020

In December of 2016, the City Commission passed a Clean Energy Resolution committing the City to meet 100% of operational electricity demands as reflected by the yearly total of all municipal electric meters with clean, renewable energy sources by 2020. Renewable was defined as wind, solar, geothermal, and/or landfill gas. The resolution further committed to the City to at least two sustainability projects per year through 2027, the formation of a 6-10 member Green Team composed of both department and community liaisons, and creating a plan to become “carbon neutral before mid-century”.

The Green Team has explored, reviewed, and recommended strategies for meeting these ambitious goals. Projects and purchases supporting energy efficiency and sustainability goals have exceeded the stipulated two-per year minimum. The City has gone from Bronze to earning Gold recognition from the *Michigan Green Communities Challenge*. In 2017, the City committed to purchasing above-market rate electricity generated by a new local 1MW solar development with 100% of the kWh generated supporting the 100% goal. In September of 2019, the City Commission voted to participate in TCL&P’s Voluntary Green Rate, achieving the 100% by 2020 goal purchasing renewable energy credits to offset non-renewable kilowatt hours used.



The current methodology for monitoring the 100% renewable electricity target is: *the calendar year kWh total of municipally controlled electric meters, less the percentage procured and generated through renewable sources, less any additional offsets procured or defined.*

Electricity Use Profile

The City pledged to meet 100% of its electricity demand for operations as reflected by the yearly total of all municipal electric meters, with clean, renewable energy sources (defined as wind, solar, geothermal, and/or landfill gas) by 2020. By the end of 2018 the City achieved 29% renewable electricity consumption through local solar generation, energy efficiency investments, and the additional 9.62% clean and renewable energy from TCLP's base portfolio. By the end of 2019 the City achieved 38% renewable electricity consumption through efficiencies, TCLP's base RE portfolio of 10.75% plus the City's M-72 solar generation development.

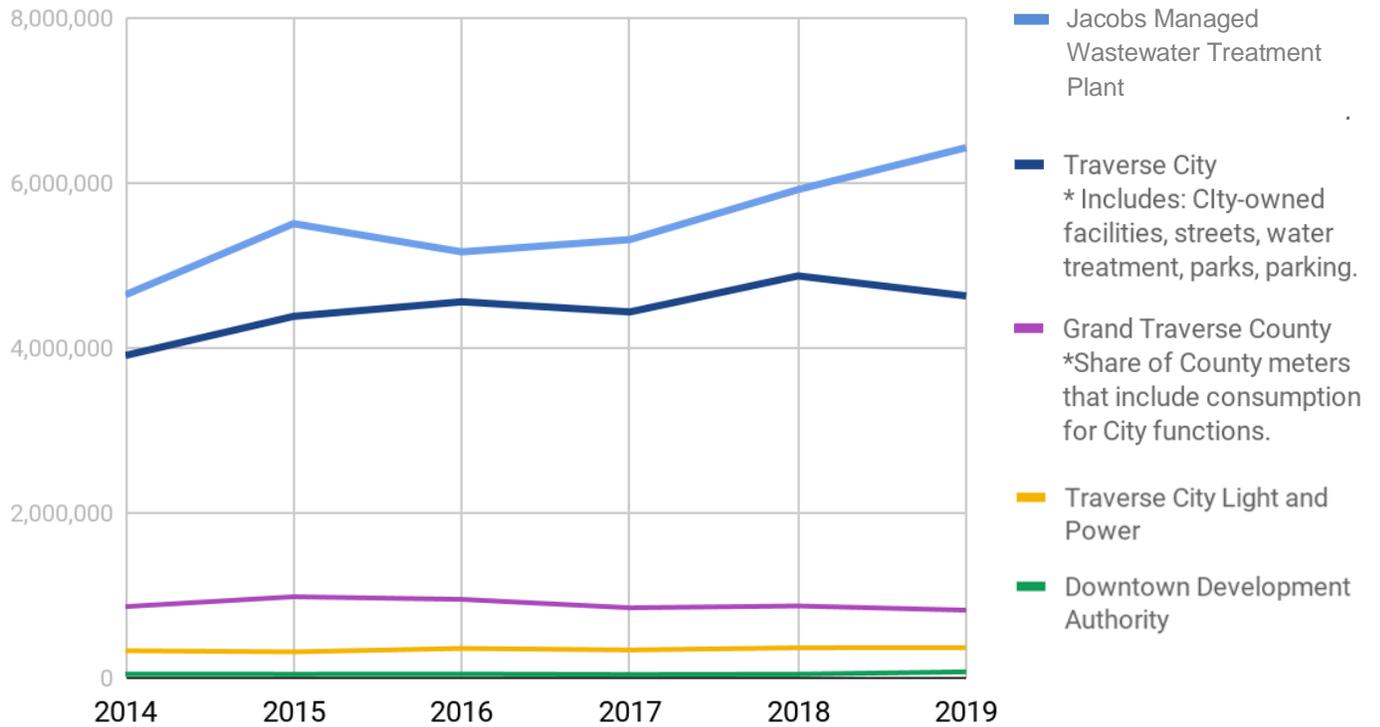
Total Consumption City Controlled Meters in 2019:	4,630,678 kWh
Less City Share of TCLP's Existing Renewable Energy Portfolio not including M-72 Solar (10.75%):	(497,798) kWh
Less Renewable Energy Generated by M-72 1 MW Solar Array in 2019:	(1,264,612) kWh
Balance (<i>numbers provided by TCL&P</i>)	2,868,268 kWh

Electricity Use Trends

Since 2014 the energy used by City controlled electric meters has increased by 721,798 kWhs. However, in the last year, City meters saw a decrease of 243,007 kWhs.

In contrast, we see multi-year rising consumption trends from, most notably, the Wastewater Treatment Plant as well as the DDA and TCLP. In 2019, the DDA electric meters jumped 28,390 kWhs primarily due to holiday lighting usage increases.

City Electricity Use Trends



Yearly kWh Usage by Entity	2014	2015	2016	2017	2018	2019
Traverse City	3,908,880	4,383,168	4,559,607	4,436,819	4,873,685	4,630,678
<i>--Includes facilities, streets, water treatment, parks, and parking.</i>						
Wastewater Treatment Plant	4,644,279	5,506,829	5,164,804	5,313,504	5,919,728	6,427,975
Traverse City Light & Power	330,587	316,517	357,841	339,207	365,628	367,943
Downtown Development Authority	47,930	46,106	47,744	41,951	45,951	74,341
Grand Traverse County Meters	864,983	984,308	952,755	850,830	873,114	821,540
<i>--Includes 26% of Governmental Center and 50% of Sheriff/Police Dept.</i>						
M-72 Solar Generation					(1,334,400)	(1,264,612)

Efficiency & Conservation Opportunities

Clean energy is the combination of conservation, efficiency, and renewable generation measures. Of these, the greatest return on investment lies in using less energy.¹ Many investments in efficiency and conservation reduce operating costs. These opportunities have confident payback periods, create no demand for additional capacity, and result in increased available funds after the payback period.

However, when pursuing savings it can sometimes be difficult to determine which projects are the most cost effective because the technologies, business models, and financing structures are dynamic and evolving. Further the opportunities cross different fuel sources including electricity, natural gas, and fleet fuels. When comparing clean energy options with unequal life spans, different capital costs, and different return rates, it can be useful to use the following ratio to compare actions and technologies: Total Projected Lifetime Costs (including installation and operations) divided by Total Projected Lifetime Energy Savings (or Production), or:

$$\frac{\text{Lifetime Project Cost (capital + installation + maintenance)}}{\text{Lifetime Projected Energy Savings / or Production}} = \text{Helpful Ratio for Comparing Projects}$$

ASHREA Energy Audit Findings: *Opera House & Carnegie Building*

The City has taken a leadership role in implementing incremental improvements and identifying opportunities. Thanks to support from Rotary Charities, the City's Opera House and Carnegie Buildings received ASHREA Level 2 energy audits in 2018, modeling conservation and efficiency measures and making suggestions tailored to each facility. The findings from the Opera House recommended bundled investment of \$106,525 showing a 6.4 year simple payback and an estimated lifetime total present-value savings of \$248,825. The findings from Carnegie recommended bundled investment of \$119,133 showing a 13.7 year simple payback. However, the Carnegie Building needed new chillers, which were included in the recommendations, but chillers do not offer a positive net payback. Subtracting the chillers from the other bundled measures changes the payback to under 10 years and a bundled cost of \$82,933 with a total lifetime savings potential of \$114,271.

	Bundled Investment Recommendations 2018	Simple Payback (years)	Lifetime Total Savings (present-value)
Opera House	\$106,525	< 7	\$248,825
Carnegie Building	\$82,933	< 10	\$114,271

¹ Golden, S. (2019, April 12). "The biggest resource we don't use: Q&A with Amory Lovins". Retrieved from: <https://www.greenbiz.com/article/biggest-resource-we-dont-use-qa-amory-lovins-energy-innovator>

Incentivizing energy efficiency and conservation measures is frequently the most cost effective approach over the long term. Investments like high performance new construction have savings that can add up over more than 40 years and the avoided costs frequently financially outperform other actions even though they may not be high profile or even visible.

Energy Use Management Recommendations

Savings from energy efficiency upgrades persist and accumulate over time, but they can go unnoticed if they are not measured and recorded. While tracking the value of energy efficiency over time can feel like extra work, it will be necessary if energy savings are used to incentivize future action. To maximize avoided costs and greenhouse gas emissions reductions, it is recommended that the City 1) improve access to facility-level energy usage data, 2) create mechanisms that support action on energy saving strategies, and 3) establish better-than-code policies for new construction and major renovations.

1. Improve Access to Energy Usage Data

1. Select Energy Star Portfolio Manager (ESPM) as the accepted data sharing format and use it to report on facility energy use, cost intensity, and greenhouse gas emissions.
2. Engage the Finance Department and implement a consistent internal method for updating electric, natural gas, and waste management utility data in ESPM monthly as bills are received or paid. Over time, utility providers should be able to improve the efficiency of data entry, but until such time the Finance Department is best situated.²
3. Proactively share Facility ESPM data with facility managers and review progress toward goals quarterly or at least annually.
4. Publicly report trends and progress toward goals at least annually.
5. Follow through with the ASHRAE Level 2 Audit recommendations for the City Opera House and the Carnegie building and track the energy and cost savings over time.

2. Incentivize Energy Savings Activities

1. Task an individual or a consistent team specifically with monitoring building energy performance and infrastructure improvements.
2. With facility managers, regularly review trends in energy use, cost intensity, and quantify the ongoing impact of strategic activities on energy use and cost.
3. Annually, identify all Energy Optimization rebate opportunities from each utility.
4. Set clear and actionable efficiency goals for building stock including:
 - a. Prioritizing investment in all improvements with <15 year payback period.
 - b. Setting an annual goal of 2% EUI improvement for all facilities.³

² "Data access enables both local governments and utilities to evaluate and improve delivery of energy efficiency programs and to support community efforts to reduce consumption and reach sustainability goals." ACEEE 2015 "Overview: Local Government-Utility Partnerships" Available: <https://aceee.org/sector/local-policy/toolkit/overview-govt-utility-partnerships>

³ Participants in the MI Better Building Challenge improved facility energy efficiency by more than 2.5 percent per year on average

- c. Setting a 10-year goal of 20% EUI improvement over the current benchmark or to meet median EUI for each building type.
- 5. Consider developing an internal Revolving Energy Fund to recapture efficiency savings for reinvestment.
- 6. Utilize this Energy Star calculator to compare cash flow opportunity costs between immediate investment with financing and delayed projects:
<https://www.energystar.gov/CFOcalculator>

3. Set Policies for New City Buildings and Major Renovations

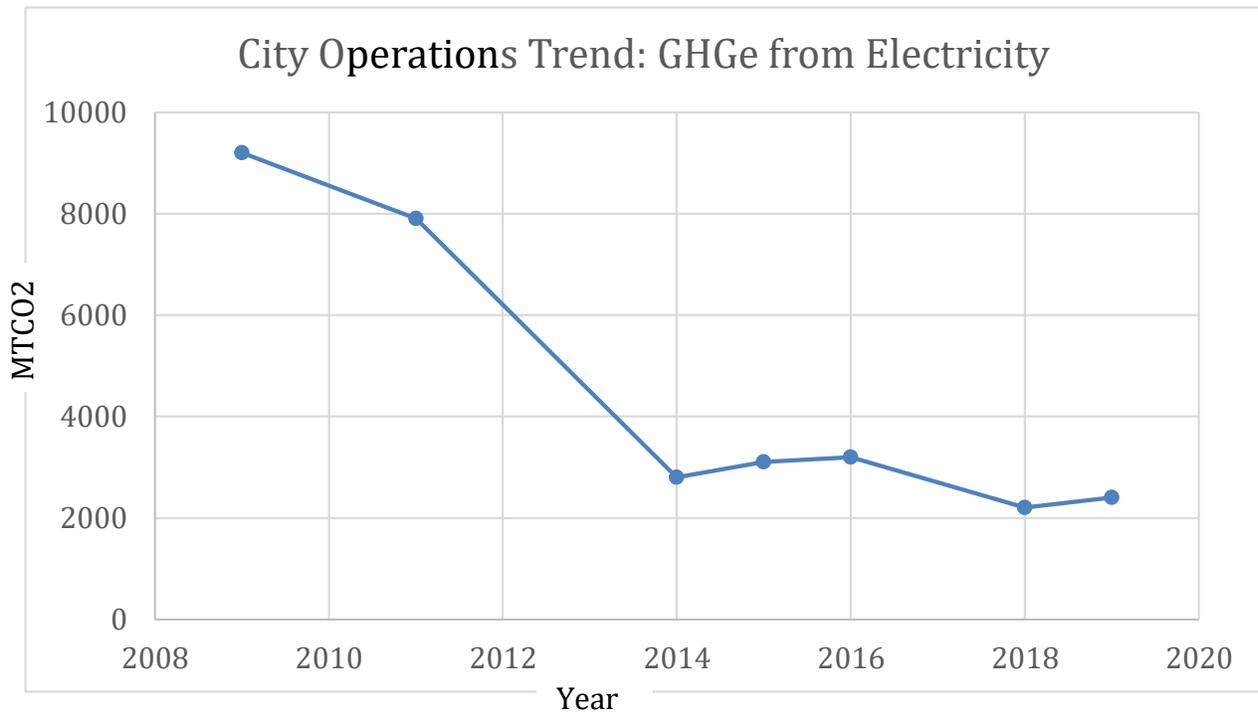
- 1. Ensure all building stock is in compliance with current code standards. Today’s building energy codes provide 30% savings compared to those of less than a decade ago.
- 2. With the Engineering Department’s support, commit to specific better-than-code efficiency and technology standards for new City construction and major renovations e.g.
 - a. A third party certification such as *Energy Star Certified*.⁴ More robust certifications include *Well* and *Living Building Challenge*.
 - b. Where feasible, choose electricity over petroleum fuel sources like natural gas.
 - c. Set an Energy Use Intensity target for all new and renovated buildings.
 - d. Make parking areas welcoming to electric vehicles.
 - e. Use landscaping and site design for passive heating and cooling

Electricity Related Greenhouse Gas Emissions Profile

The City’s current methodology for tracking its greenhouse gas emissions (GHGe) trends only look at electricity used at City-controlled meters and does not include the Wastewater Treatment Plant, DDA meters, TCL&P, nor the City’s share of Grand Traverse County meters. Based on this method, between 2018 and 2019 the emissions generated by electricity increased by 209 MTC02e. This was due to reduced kWh generation provided by the M-72 solar array. Achieving and maintaining 100% clean, renewable electricity for City operations – as is projected for FY2020 – will take the following graph down to zero.

Going beyond electricity and getting to 100% Carbon Neutral will require additional strategies and tactics, many of which are covered in the “2011 Traverse City Carbon Action Plan” and remain relevant today. The remaining greenhouse gas emissions can be resolved through 1) additional conservation and efficiency reductions in natural gas, fleet fuels, and landfill waste, 2) tending City greenspaces for carbon capture through perennial plantings, 3) additional renewable energy generation, and 4) purchasing carbon offsets much as the City has purchased renewable energy credits from TCL&P through its Voluntary Green Rate.

⁴ Compared with their peers, an ENERGY STAR certified office building on average uses 35% less energy, costs \$0.54 less per square foot to operate and has higher rental and occupancy rate. “ENERGY STAR certification for your building” Available: <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/earn-recognition/energy-star-certification>



Greenhouse Gas Emissions (GHGe) Priorities

Based on the City’s “2011 Climate Action Plan” benchmarks, using 100% renewable electricity will prevent about 5000 MTCO₂e⁵ each year. This is equivalent to removing 1080 passenger vehicles from the roads for a year, the total energy used by 577 homes in a year, or the carbon sequestered by 6,530 acres of forest in one year. At this point, City operations will be responsible for emitting about 2000 MTCO₂e/year and will be faced with prioritizing the following activities.

1. Setting a Clear Interim Target: With respect to the 2016 resolution, the City must further define the goal of becoming “carbon neutral before mid-century” and decide whether this covers City operations only, and if so which City operations specifically, or whether the goal is intended at a broader community-scale. A defined interim target would help City staff prioritize actions within their direct control as well define how the City will partner with other community allies.

2. Conservation and Efficiency improvements could likely resolve 20% of the remaining GHG emissions – and significantly more depending on the level of cultural and financial commitment to the following strategies:

- a) Natural gas usage efficiencies through facilities improvements ranging from weather sealing to HVAC upgrades.
- b) Low- and No-cost Conservation strategies ranging from de-lamping to paper reduction, increasing use of recycled materials to behavior changes among facility users and staff.

⁵ MTCO₂e =Metric Tons of Co₂ equivalents, a standardized measure for multiple types of greenhouse gasses.

- c) Setting beyond-code targets for new and renovated buildings.
- d) Managing the Water and Wastewater Treatment load by incentivizing conservation & efficiencies throughout the City.
- e) Improving Fleet Conservation and Efficiency by downsizing engines and continuing to replace gas and diesel equipment with more efficient engines and electrification.
- f) Reducing solid wastes, improving rates of recycling and food waste diversion.

3. Carbon Capture is already happening in the City's parks and easements. In 2018 a benchmark study of Traverse City's urban tree canopy was completed by Davey Research Group, which found that the City is under approximately 33% tree canopy cover. The study also suggested that the City could feasibly increase its tree canopy from 33% to 42% cover. Based on the EPA's estimate of 0.77 MTCO₂ sequestered annually by one acre of average U.S. forest⁶, we can estimate that the City's current canopy is sequestering perhaps 1400 MTCO₂ annually. Traverse City also owns and manages the Brownbridge Quiet Area, an approximately 1300 acre parkland over 80% of which is forested. This is sequestering an estimated 800 MTCO₂ annually with another 170 acres currently perennializing.

Compared to municipal operations, trees in the City and at Brownbridge together offset a significant amount of GHGe, approximately 2200 MTCO₂ per year. It is also worth emphasizing the financially compelling **co-benefits** of woody plantings for natural stormwater management, shoreline protection, decreasing heat island effects, and overall community resilience.

3. Renewable Generation from the 1 MW solar array as well as the off-grid lights at West End Beach will continue to avoid emissions by provided clean, renewable energy. Creating more renewable energy than is consumed total can offset GHGe. In 2019 the solar array avoided close to 900 MTCO₂e and the off-grid lights at west end beach avoided 0.15 MTCO₂e.

4. Carbon Offsets can be purchased similar to the process of purchasing Renewable Energy Credits (RECS) as you currently do through the Voluntary Green Rate, Carbon Credits can be purchased through a variety of regulated markets. Other viable solutions include committing to the maintenance of additional forested acreage and other GHGe prevention and sequestering strategies.

⁶ <https://www.epa.gov/energy/greenhouse-gases-equivalencies-calculator-calculations-and-references#pineforests>

Report Attachments

1. 2018-2019 Green Team Activity and Staff Accomplishments Lists
2. 2020 Planned “Sustainable Activities”
3. High-Performance Lease Recommendations from the Institute for Market Transformation
4. Green Procurement Policy Boilerplate & Resources

Other Related Data

Materials recycled communitywide. (tons/year): 158,654 pounds household hazardous waste collected in Grand Traverse County. Based on data gathered from the Grand Traverse County Designated Facilities, Special Collections and Drop Off sites, 21,880 Tons of material were diverted from the landfill in 2018.

Materials composted communitywide. (tons/year): Historical data shows the City composts around 10,000 tons of yard waste per year.

Materials landfilled or incinerated by local government. (tons/year): According to data provided in the MDEQ Annual Report of Solid Waste Landfilled in Michigan, Grand Traverse County landfilled 131,628 tons in 2018.

Percent impervious surface community-wide: 33%

Percent tree canopy cover community-wide: 33%

Total acres of parkland: 169,506

Annual municipal water consumption. (gallons): 855,000,000

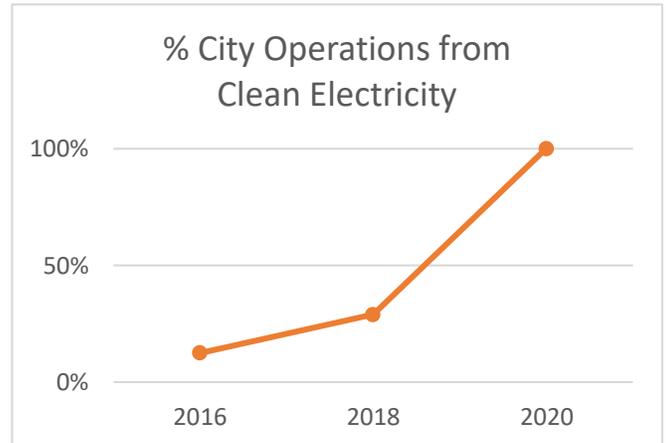
Annual community-wide water use. (gallons): 1,975,000,000

Annual community-wide wastewater. (gallons): 1,800,000,000

Number of certified green buildings within the boundaries of the local government, including commercial and residential. LEED, ENERGY STAR, or other similar certification programs: 29

Green Team Executive Summary 2017 – 2019

In December of 2016, the City Commission passed a Clean Energy Resolution relaunching its Green Team to explore, recommend, and review strategies for meeting the ambitious goals. The City has gone from Bronze to earning Gold level recognition from the *Michigan Green Communities Challenge*. In 2017, the City committed to purchasing above-market rate electricity generated by a local 1MW solar development. In September of 2019, the City Commission voted to participate in TCL&P's Voluntary Green Rate to purchase renewable energy credits offsetting non-renewable kilowatt hours used and thereby achieve its 100% by 2020 goal.



ELECTRICITY USE TRENDS

While the City has made efficiency gains, including a reduction of over 240 Megawatts in the last year, overall energy used by City meters has increased by over 720 Megawatts since 2014.

Yearly kWh Usage by Entity	2014	2015	2016	2017	2018	2019
Traverse City	3,908,880	4,383,168	4,559,607	4,436,819	4,873,685	4,630,678
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<i>--Includes 26% of Governmental Center and 50% of Sheriff/Police Dept.</i>						
M-72 Solar Generation					(1,334,400)	(1,264,612)

Incentivizing energy efficiency and conservation is frequently the most cost effective approach over the long term. Investments in high performance new construction have savings that add up over more than 40 years. Avoided future costs frequently financially out-perform other actions even though they may not be high profile or even visible. For example, the 2018 ASHREA II analysis of the Opera House and Carnegie buildings show significant savings potential:

	Bundled Investment Recommendations 2018	Simple Payback (years)	Lifetime Total Savings (present-value)
Opera House	\$106,525	< 7	\$248,825
Carnegie Building	\$82,933	< 10	\$114,271

Energy Use Management Recommendations

1. **Improve Access to Energy Use Data**, engaging the Finance Department and consistently update utility usage data into Energy Star Portfolio Manager and making this information accessible to building managers.
2. **Incentivize Energy Savings Activities**, coordinating monitoring and technical support in order to capture avoided costs and cash flow benefits.
3. **Set Beyond-Code Policies** for new City buildings and renovations.

GREENHOUSE GAS EMISSIONS (GHGE) PRIORITIES

Based on the City’s “2011 Climate Action Plan” benchmarks, achieving 100% renewable electricity will prevent about 5000 MTCO₂e¹ each year. This is equivalent to removing 1080 passenger vehicles from the roads for a year, the total energy used by 577 homes in a year, or the carbon sequestered by 6,530 acres of forest in one year. At this point, City operations will be responsible for emitting about 2000 MTCO₂e/year.

To achieve carbon neutrality will require: 1) additional conservation and efficiency reductions in natural gas, fleet fuels, and landfill waste, 2) tending City greenspaces for carbon capture, 3) additional renewable energy generation, and 4) purchasing carbon offsets much as the City has purchased renewable energy credits from TCL&P through its Voluntary Green Rate.

Greenhouse Gas Emissions Recommendation

Set a Clear Next Step Target – With respect to the 2016 resolution, the City must further define the goal of becoming “carbon neutral before mid-century” and decide whether this covers City operations only, and if so which City operations specifically, or whether the goal is intended at a broader community-scale. A defined interim target would help City staff prioritize actions within their direct control as well define how the City will partner with other community allies.

¹ MTCO₂e =Metric Tons of Co₂ equivalents, a standardized measure for multiple types of greenhouse gasses.

2018-2019 Accomplishments

September 23, 2019 City Commission established new policy to meet 100% RE Electricity completing Phase One of the resolution.

2018-19 Green Team Activity

- Green Team Meeting: February 22, 2018
- *Green Team Energy Efficiency Subcommittee: 3/6/18*
- *Green Team Carbon Action Plan Subcommittee: 3/14/18*
- *Green Team Renewable Energy Subcommittee: 4/5/18*
- *Green Team Stormwater Subcommittee: 4/10/18*
- Green Team Meeting: May 17, 2018
- Green Team Meeting: August 16, 2018
- *Green Team Engagement Subcommittee: 11/21/18*
- Green Team Meeting: November 29, 2018
- *Green Team Engagement Subcommittee: 12/13/18*
- Green Team Meeting: February 11, 2019
- Green Team Meeting: April 24, 2019
- Green Team Meeting: May 20, 2019
- Green Team Meeting: September 23, 2019
- Green Team Meeting: November 25, 2019

2018 & 2019 Staff Accomplishments

Michigan Green Communities Challenge Certification

2018

- Silver Certification (achieved Bronze in 2017)
- Most-improved community, \$3000 migrant award

2019

- Gold Certification
- Most-improved community, second year in a row

2019 Staff Engagement - ***SEEDS*** sponsored Kilowatt Hour Challenge

- 163 Active Participants
- Over 1,000 Individual Actions

The 2019 City 'kWh Challenge' focused on creating a culture shift and increasing staff awareness of opportunities for action by challenging departments to a friendly competition to reduce energy use through load reduction, daylighting, updating computer settings and identifying opportunities for LED upgrades and other low-hanging fruit. The challenge lasted for a month and weekly winners received kudos and donuts for their department.

kWh Challenge Week One: Save Energy with LEDs!						
Department	Active participants	# of lights that could be replaced w/ LEDs	# of lights replaced	# of Personal lighting upgrades	Apply for rebate w/ TCLP	Contact a lighting contractor for retrofit quotes
Engineering	7	2	2	1	No	No
DMU	21	321	8	2	No	No
Assessor	4	0		0	No	No
DPS	14	366	0	1	No	No
City Manager, Attorney, HR	8	3	3 ordered	4	No	Yes
T.C. DDA	-	-	-	-	-	-
Total Actions	54	692	13	8	-	-

kWh Challenge Week Two: Turn off the Lights & Try Daylighting!				
Department	Active participants	# of times you or a member in your department turned off lights in an empty room	# of times your department intentionally used daylighting this week	# of rooms identified that could use occupancy sensors
Engineering				
DMU	27	262	24	25
Assessor				
DPS	14	344	63	25
City Manager, Attorney, HR	6	30	16	3
Total Actions	47	636	103	53

kWh Challenge Week Three: Activate Computer Power Settings and Shut it Down!

Department	Active participants	Department checked w/ IT to identify the best ways to reduce computer electricity	# of department members to activate power settings on their computer	# of department members to activate power settings on their monitor	How many cumulative days this week did members of your department shut down their computer at the end of the work day?
Engineering	7	No	7	7	5
DMU	11	No	11	11	54
Assessor	4	No	4	4	5
DPS	6	Yes	6	6	4
City Manager, Attorney, HR					
T.C. DDA	17	Yes	12	12	20
Total Actions	45	-	40	40	88

kWh Challenge Week Four: Take Time to Unplug!

Department	Active participants	# of electronic devices unplugged by your department ?	# of locations identified in your department that could benefit from using a smart power strip ?
Engineering			
DMU	12	32	16
Assessor	0	0	0
DPS			
City Manager, Attorney, HR	5	10	2
T.C. DDA			

Totals	17	42	18
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Garage Division Purchases 2018 Calendar year:

- 2017 Global Street Sweeper (tier 4, low emission Diesel) - Streets
- 2017 Ford Rescue/Paramedic (tier 4, low emission Diesel) – Fire
- 2017 SnoGo Snow Blower (large) (tier 4, low emission Diesel) - Streets
- 2017 SnoGo Snow Blower (large) (tier 4, low emission Diesel) – Streets
- 2017 Trackless snow blower/mower (tier 4, low emission Diesel) – Streets
- 2017 Komtech Composter (tier 4, low emission Diesel) – Streets
- 2017 Komtech Screening Drum (tier 4, low emission Diesel) – Streets
- 2018 National Sign Arrow Board (solar) – Water Maintenance
- 2018 Chevrolet Bolt (electric) – TCPS
- 2018 Mean Green Zero Turn (electric) – Parks
- 2018 Mean Green Zero Turn (electric) – Parks
- 2018 Mean Green Push Mower (electric) – Parks
- 2018 John Deere Track Loader (tier 4, low emission Diesel) - Streets
- 2018 Western Star Plow/Dump (tier 4, low emission Diesel) – Streets
- 2019 John Deere Large Loader (HYBRID - small Diesel engine running an electric generator for power) – Streets

Garage Division Purchases 2019 Calendar year:

- 3 - Harley Davidson Patrol Vehicles (50mpg+) – Police
- Elgin Street Sweeper (tier 4 low emission Diesel) - Streets
- 2 - Clean Diesel Zero Turn Mowers – Cemetery
- Clean Diesel Zero Turn Mower – Parks
- Arrow Board Solar – Streets
- Garage overhead door #6 was replaced with an insulated door and the cement apron was reconstructed to seal against weather and reduce heat costs.
- A new high efficiency Natural gas fired Power washer was installed for equipment cleaning.

DDA

2018

- Old Town Garage LED Light Conversion

Opera House

2018

- ASHREA Level 2 Energy Audit performed

Included in the current Capital Improvement Plan:

- CHP Engine \$50,000 Total City Funds (\$10,000 on 2020-2021, 2021-2022, 2022-2023, 2023-2024, and 2024-2015)
- Purchase & Install Backup Generator \$55,000 Total City Funds
- 30,000 in 2020-2021 and \$25,000 in 2021-2022
- Replace Packaged A/C Rooftop Units \$35,000 Total City Funds
- \$15,000 in 2020-2021 and \$20,000 in 2021-2022
- Lighting Retrofit - Incandescents \$18,000 in 2019-2020
- Lighting Retrofit - T-8 fixtures \$17,500 in 2019-2020
- Replace Boiler \$12,000 in 2019-2020

Parks 2018

- Total Trees Planted = 354 (up from 192 in 2017 and 144 in 2016)
- Carnegie Library ASHREA Level 2 Energy Audit performed
- Carnegie Library replaced LED fixtures reducing the energy usage of the building by as much as 15,365 kilowatt hours a year, reducing greenhouse gas emissions by nearly 11 metric tons, equivalent to the carbon sequestered by 13 acres of forest in one year.
- Urban Canopy Assessment and Management Plan
- West End Off Grid Lights generated 264 kwh of electricity and used only 136 kwh of electricity, offsetting 215 LBS of CO2
- 151 trees planted

Parks 2019

- Total Trees Planted = 451
- GIS tree inventory of all street trees.
- West Bay tree planting on Recreational Authority managed land adjacent to the Open Space installed 38 trees of three different species types. Over their ~50-year lifespan, it is estimated that 38,417.1kg (38.4 metric tons) of carbon will be sequestered, 64.2kg of criteria air pollutants will be removed, and 239 cubic meters of stormwater runoff will be avoided with an estimated value of \$564.
- Native species planting and invasive removal at the Hickory Hills ski area in collaboration with the Grand Traverse Conservation District.
- City Commission authorized additional parks employee to support tree trimming and planting in accordance with Tree Canopy Plan.
- West End Off Grid Lights (through the end of November 2019) generated 334 kwh of electricity and used only 194 kwh of electricity, offsetting 305 LBS of CO2
- Hickory Ski Lodge construction used LED lighting and energy efficient design.
- City Ord. 1068 - Ground-Water Protection and Storm-Water Runoff Control requires site plan approval for protection of groundwater, wetlands, lakes and streams. Ordinance also includes required setbacks to water features to limit site disturbance and provide natural buffers.

Municipal Utilities 2018

- Installed a Variable Frequency Drive (VFD) at the water treatment plant high service pump
- Electrical Gear Upgrades at WTP & Low Service

Municipal Utilities 2019

- Automated Metering Infrastructure (AMI)
- Purchased and are installing two VFD's for the water treatment plant pumps
- Installed 6 outdoor LED lights at the Barlow water reservoir site, replacing 4 older sodium type lights

Wastewater Treatment Plant 2018

- Engineering study pertaining to the Facility Plan at Wastewater Treatment Plant

TCLP 2018

- Traffic lights 100% LED. Street and public lighting at approx. 50%. Other existing lighting converted to LED when replaced or requested.
- Automated Metering Infrastructure (AMI)

TCLP 2019

- Traverse City Light and Power committed to using 100% renewable energy community-wide by 2040
- TCLP installed a Level 2 Electric Vehicle charging station at its Hastings Street office which is free for customers to use.
- Working together with the City and TVC Airport to identify potential solar installation

Other Projects 2019

- Eighth Street Reconstruction of 3.5 blocks included mid-street stormwater draining including native grass plantings in medians where water is captured. Reduced asphalt by 26%. Alley reconstruction included drywells to infiltrate stormwater.
- Coal Tar Ban Ordinance was approved on February 3 and went into effect on February 13. Coal tar has been documented to be harmful to humans, fish and other aquatic life and is now banned from being applied to the many acres of asphalt surfaces within the City. In the long term, the City is working to reduce the need for parking lots as we move forward to make Traverse City a more walkable and transit friendly community.

Grand Traverse County

Policy Update: Building Code Enforcement - County governmental operations and facilities must follow the same standards and be inspected just like any other facility in the County. While Inspectors are busy and sometimes understaffed, the staff are well qualified and they do inspect every permitted project ensuring code enforcement to State standards.

Facilities is Tracking Avoided Costs from efficiency upgrades: e.g. 600 lights changed from 32W T-8 to 12W LED based on an 18 hours a day for common areas in the downtown Government center and Hall of Justice saves over \$1,250 per year by saving over 10,800kw in usage.

Planned Sustainable Activities & Purchases for 2020

- 2 - Snow Plow/Dump Trucks (tier 4 low emission Diesel) - Streets
- John Deere HYBRID Large loader – Streets
- 2 - Medium Size Loaders Clean Diesel - Streets/Parks
- 3 - Trackless Snow Blower/ Mower/sweepers Low emission clean Diesel – Streets
- 4 - Ford Police Interceptor “Hybrid” vehicles - Police
- 2nd John Deere HYBRID Large loader – Streets
- DPS low volume, high velocity toilets
- DPS timers on light switches in garage building
- Upgrade boiler system at Carnegie Library (based on ASHREA Audit)
- Continued street cleaning
- Benchmarking acres in tree-coverage for Brownbridge parkland
- Creating an Active Transportation Commission

Green Procurement Resources for Traverse City

[Suggested Green Purchasing Policy Draft Language](#)

[Green Purchasing Policy Creation and Guidance](#)

[Michigan Green Communities](#)

[U. S. Communities Government Purchasing Alliance/ OMINA Partners](#)

[MiDEAL Extended Purchasing Program](#)

Suggested Green Purchasing Policy Draft Language

Traverse City's Existing Purchasing Policy

(http://www.traverscitymi.gov/downloads/purchasing_policy_july_2016.pdf) could be amended or an additional policy could be adopted.

The following is a sample comprehensive green purchasing policy language created by Sustainable Jersey.

1.0 CITY ENVIRONMENTALLY PREFERABLE PURCHASING POLICY

1.1 STATEMENT OF THE POLICY

It is the policy & practice of the City to:

- Institute practices that reduce waste by increasing product efficiency and effectiveness, and
- Purchase products that minimize environmental impacts, toxics, pollution, and hazards to worker and community safety to the greatest extent practicable, and
- Purchase products that include recycled content, are durable and long-lasting, conserve energy and water, use agricultural fibers and residues, reduce greenhouse gas emissions, use unbleached or chlorine free manufacturing processes, are lead-free and mercury-free, and use wood from sustainably harvested forests (FSC) when & where possible.

1.2 PURPOSE & OBJECTIVES OF THE POLICY

The goal of this policy is to encourage and increase the use of environmentally preferable products and services in the City. By including environmental considerations in purchasing decisions, the City can promote practices that improve public and worker health, conserve natural resources, and reward environmentally conscious manufacturers, while remaining fiscally responsible.

The policy objectives are to:

- Conserve natural resources,
- Minimize environmental impacts such as GHG emissions, pollution and use of water and energy,
- Eliminate or reduce toxins that create hazards to workers and our community,
- Support strong recycling markets,
- Reduce materials that are routinely land filled or disposed of,
- Increase the use and availability of environmentally preferable products that protect the environment,
- Identify environmentally preferable products & associated distribution systems,
- Reward manufacturers & vendors with contracts that reduce environmental impacts in their production & distribution systems or services,

- Collect & maintain up-to-date information regarding manufacturers, vendors and other sources for locating/ordering environmentally preferable products,
- Create a model for successfully purchasing environmentally preferable products that encourages other purchasers in our community to adopt similar goals.

1.3 RESEARCH, EVALUATION & IMPLEMENTATION OF THE POLICY

The City department heads, facilities managers, and members of the Green Team, which shall be composed of representatives from various City departments/divisions, commissions/committees and volunteer organizations shall research, evaluate, and implement the environmental purchasing objectives. The Green Team Committee shall focus its research, evaluation and the implementation of the Green Policy in the following areas:

- Recycled Content Products (e.g. paper products, playground/recreation equipment, toner/printer cartridges, motor oils & lubricants, furniture, carpets & flooring materials, matting, plastic/composite lumber/building materials, trash bags, parking stops, ceiling tiles, etc...)
- Less Harmful & Non-toxic Materials & Processes (e.g. janitorial/cleaning products, pest management chemicals, phosphates, paint, solvents, fuels & lubricants, etc...)
- Energy & Water Efficient Products & Processes (e.g. solar applications, energy efficient lighting, energy star appliances, water saving devices, vehicles & motorized equipment, etc...)
- Natural Resource & Landscaping Management (e.g. integrated pest and vegetation management, drought tolerant/indigence plants & shrubs, recycled mulches & natural composts, etc...)
- Renewable Products (e.g. FSC certified forests products, renewable energy resources, etc...)
- Disposal & Pollution Reduction (e.g. integrated waste management, duplex copies, retread tires, reusable holiday trees, recycling programs for used ceiling tiles & flooring materials, etc...)
- Packaging (e.g. bulk packaging, reusable boxes, recycled packing materials, shipping pallets, etc...)
- Green Building Program (e.g. using recycled products in the construction and renovation, disposal of building materials in an environmentally sensitive manner, designing and renovating for energy and resource conservation)

The Committee is aware that the evaluation and implementation phases of the project will require changes in awareness, behaviors, practices and operating procedures. To the extent possible, it is the Committee's intention to have a participative process as it researches, evaluates and implements the policy recommendations. It is also the Committee's intention to meet annually after implementation to monitor and evaluate the City's progress

1.4 SPECIFICATIONS

1.4.1 Source Reduction

To the extent practicable the City shall institute practices that reduce waste and result in the purchase of fewer products whenever practicable and cost-effective, but without reducing safety or overall workplace quality.

To the extent practicable the City shall purchase remanufactured products such as toner/printer cartridges, retread tires, furniture, equipment and automotive parts whenever practicable, but without reducing safety, quality or effectiveness.

To the extent practicable the City shall require all equipment bought after the adoption of this policy to be compatible with source reduction goals as referred to in the policy, when & where practicable.

All buyers shall consider short-term and long-term costs in comparing product alternatives, when feasible. This includes the evaluation of the total costs expected during the lifetime of the product, including, but not limited to, acquisition, extended warranties, operation, supplies, maintenance, disposal costs and expected lifetime compared to other alternatives.

Products that are durable, long lasting, reusable or refillable shall be preferred whenever available & practicable.

To the extent practicable the City requests vendors to eliminate excess packaging or to utilize the minimum amount necessary for product protection, to the greatest extent practicable.

Packaging that is reusable, recyclable or compostable shall be preferred, when suitable uses and programs readily exist.

Vendors shall be encouraged to take back and reuse wooden pallets and other shipping and packaging materials when & where practicable.

Suppliers of electronic equipment, including but not limited to computers, monitors, printers, fax machines and photocopiers, shall be required to take back the equipment for reuse or environmentally safe recycling when the City discards or replaces such equipment, whenever & where practicable.

To the extent practicable the City shall consider provisions in contracts with suppliers of non-electronic equipment that require suppliers to take back equipment for reuse or environmentally safe recycling when the City discards or replaces such equipment, whenever practicable.

All documents shall be printed and photocopied on both sides (duplex) to reduce the use and purchase of photocopy paper, whenever & where practicable.

1.4.2 **Recycled Content Products**

All products for which the United States Environmental Protection Agency (U.S. EPA) has established minimum recycled content standard guidelines in the Agency's Comprehensive Procurement Guidelines, such as those for printing paper, photocopy paper, janitorial paper products, construction, landscaping, parks and recreation, transportation, vehicles, miscellaneous and non-paper office products, shall contain the highest postconsumer content practicable to the application, but no less than the minimum recycled content standards established by the U.S. EPA Guidelines.

Photocopiers and printers purchased or leased by the City shall be compatible with the use of recycled content and remanufactured products.

To the extent practicable, the City shall purchase re-refined lubricating and industrial oil for use in its vehicles and other motorized equipment, as long as it is certified by the American Petroleum Institute (API) as appropriate for use in such equipment.

When specifying asphalt concrete, aggregate base or Portland Cement Concrete for road construction projects, the City shall utilize recycled, reusable or reground materials when & where practicable.

To the extent practicable the City shall specify and purchase recycled content transportation products, including signs, traffic cones, parking stops, delineators, channelizers and barricades, which shall contain the highest postconsumer content practicable, but no less than the minimum recycled content standards established by the U.S. EPA Comprehensive Procurement Guidelines.

All pre-printed recycled content papers intended for distribution that are purchased or produced shall contain a statement that the paper is recycled content of a minimum of thirty (30%) percent recycled postconsumer content. Whenever feasible, the statement should indicate the percentage of postconsumer recycled content that the paper contains.

1.4.3 **Energy & Water Savings**

Where applicable, energy-efficient equipment shall be purchased with the most up-to-date energy efficiency functions. This includes, but is not limited to, high efficiency space heating systems and high efficiency space cooling equipment.

When practicable, the City shall replace inefficient interior lighting with energy-efficient equipment and bulbs.

When practicable, the City shall replace inefficient exterior lighting, street lighting and traffic signal lights with energy-efficient equipment and bulbs. Exterior lighting shall be minimized when and where possible to avoid unnecessary lighting of architectural and landscape features while providing adequate illumination for safety and accessibility.

All products purchased by the City and for which the U.S. EPA Energy Star certification is available shall meet Energy Star certification, when practicable and available. When Energy Star labels are not available, City shall choose energy-efficient products that are in the upper 25% of energy efficiency as designated by the Federal Energy Management Program.

To the extent practicable the City shall purchase water-saving/conservation products. This includes, but is not limited to, high-performance fixtures such as toilets, low-flow faucets and aerators, and upgraded landscape irrigation systems.

1.4.4 Green Buildings & LEED IM Ratings [This Section could reference any one of a number of certifications and rating systems including Energy Star.]

All building and renovations undertaken by the City shall follow Green Building Practices for design, construction, and operation, where appropriate and practicable, as described in the LEED IM Rating System. Architects and engineers for procured for said work shall be required to have LEED certified members on their staff assigned to the project when & where practicable.

1.4.5 Landscaping & Hardscaping

All landscape renovations, construction and maintenance performed by the City, including workers and contractors providing landscaping services for the City, shall employ sustainable landscape management techniques for design, construction and maintenance whenever & where possible, including, but not limited to, integrated pest management (IPM), grass recycling, drip irrigation, pollinator-friendly plantings and practices, composting, and the procurement and use of mulch and compost that give preference to those products produced from regionally generated plant debris and/or food and sludge waste programs.

Plants should be selected to minimize waste by choosing species for purchase that are appropriate to the microclimate, species that can grow to their natural size in the space allotted to them, and perennials rather than annuals for color variations should be utilized. Native and drought-tolerant plants that require no or minimal watering once established are preferred over others when & where practicable.

Hardscapes and landscape structures constructed of recycled content materials are encouraged to be utilized. The City shall limit the amount of impervious surfaces in the landscape, when & where practicable. Permeable substitutes, such as permeable asphalt or pavers, are encouraged for walkways, patios and driveways.

1.4.6 Toxics & Pollution

To the extent practicable, the City shall purchase, or require janitorial contractors to supply, industrial and institutional cleaning products that meet and/or exceed the Green Seal Certification Standards for environmental preferability and performance.

To the extent practicable, the City shall purchase, or require janitorial contractors to supply, vacuum cleaners that meet the requirements of the Carpet and Rug Institute “Green Label” Testing Program — Vacuum Cleaner Criteria, are capable of capturing 96% of particulates 0.3 microns in size, and operate with a sound level less than 70dBA. Where possible and as applicable, other janitorial cleaning equipment shall be capable of capturing fine particulates, removing sufficient moisture so as to dry within twenty-four (24) hours, operate with a sound level less than 70dBA, and use high-efficiency, low-emissions engines.

The use of chlorofluorocarbon, Halon & Freon containing refrigerants, solvents and other products shall be phased out and new purchases of heating/ventilating/air conditioning, refrigeration, insulation and fire suppression systems shall not contain them.

All surfactants & detergents shall be readily biodegradable and, where practicable, shall not contain phosphates.

When maintaining buildings and landscapes, City shall manage pest problems through prevention and physical, mechanical and biological controls. The City may either adopt and implement an organic pest management policy and practices or adopt and implement an Integrated Pest Management (IPM) policy and practices using the least toxic pest control method as a last resort.

When maintaining buildings, the City shall utilize products with the lowest amount of volatile organic compounds (VOCs), highest recycled content, and low or no formaldehyde or lead when practicable when purchasing materials such as paint, carpeting, flooring materials, adhesives, furniture, filing cabinets, ceiling tiles, coving, moldings and casework.

To the extent practicable, the City shall reduce or eliminate its use of products that contribute to the formation of dioxins and furans. This includes, but is not limited to:

Photocopier paper, paper products, and janitorial paper products that are unbleached or that are processed without chlorine or chlorine derivatives, whenever & where possible and that possess a minimum of thirty (30%) percent recycled postconsumer waste content.

Prohibiting purchase of products that use halogens, polyvinyl chloride (PVC), lead, phthalates and asbestos such as, but not limited to, office binders, chair/floor mats, casework, moldings, furniture, carpeting, flooring materials, ceiling tiles and medical supplies whenever & where practicable.

To the extent practicable, the City shall purchase products and equipment with no lead or mercury whenever possible. For products that contain lead or mercury, City shall give preference to those products with lower quantities of these metals and to vendors with established lead and mercury recovery programs.

To the extent practicable, the City shall specify that desktop computers, notebooks and monitors purchased shall meet, at a minimum, all Electronic Product Environmental Assessment Tool (EPEAT) environmental criteria designated as “required” as contained in the IEEE 1680 Standard for the Environmental Assessment of Personal Computer Products, whenever practicable.

When replacing vehicles, the City shall consider less-polluting alternatives to diesel such as bio-based fuels, hybrids, electric batteries, and fuel cells, as may be available for the application.

1.4.7 Forest Conservation

To the extent practicable, the City shall not procure wood products such as lumber and paper that originate from forests harvested in an environmentally unsustainable manner. When possible, City shall give preference to wood products that are certified to be sustainably harvested by a comprehensive, performance-based certification system. The certification system shall include independent third-party audits, with standards equivalent to, or stricter than, those of the Forest Stewardship Council (FSC) certification.

To the extent practicable, the City encourages the purchase or use of previously utilized and/or salvaged wood and wood products whenever practicable & where available.

1.4.8 Bio-Based Products

Vehicle fuels made from non-wood, plant-based contents such as vegetable oils are encouraged whenever practicable and available.

Paper and construction products made from non-wood, plant-based contents such as agricultural crops and residues are encouraged whenever practicable.

Bio-based plastic products that are biodegradable and compostable, such as bags, film, food and beverage containers, and cutlery, are encouraged whenever practicable.

Compostable plastic products purchased shall meet American Society for Testing and Materials (ASTM) standards as found in ASTM D6400-04. Biodegradable plastics used as coatings on paper and other compostable substrates shall meet ASTM D6868-03 standards.

Proof of compliance with ASTM standards for compostable, biodegradable and degradable plastic products shall be provided by vendors of such products, upon request. One acceptable proof of compliance for compostable plastic products shall be the certification by the Biodegradable Products Institute (BPI).

1.5 PRIORITIES

The health & safety of workers & citizens is of the utmost importance and takes precedence over all other policies and practices.

To the extent practicable, the City has made significant investments in developing a successful recycling system and recognizes that recycled content products are essential to the continuing viability of that recycling system and for the foundation of an environmentally sound production system. Therefore, to the greatest extent practicable, recycled content shall be included in products that also meet other specifications, such as chlorine free or bio--based.

Nothing contained in this policy shall be construed as requiring a department, purchaser or contractor to procure products that do not perform adequately for their intended use, exclude adequate competition, or are not available at a reasonable price in a reasonable period of time.

Nothing contained in this policy shall be construed as requiring the City, department, purchaser or contractor to take any action that conflicts with local, state or federal requirements.

1.6 IMPLEMENTATION OF THE POLICY

The Business Administrator, Purchasing Manager/Agent, Director of Finance, Director of Public Works and other responsible directors/managers shall implement this policy in coordination with other appropriate City personnel.

As applicable, successful bidders shall certify in writing that the environmental attributes claimed in competitive bids are accurate. In compliance with New Jersey State Law, vendors shall be required to specify the minimum or actual percentage of recovered and postconsumer material in their products, even when such percentages are zero.

Upon request, buyers making the selection from competitive bids shall be able to provide justification for product choices that do not meet the environmentally preferable purchasing criteria in this policy.

Vendors, contractors and grantees shall be encouraged to comply with applicable sections of this policy for products and services provided to the City, where practicable.

1.7 PROGRAM EVALUATION

The Business Administrator, Purchasing Manager/Agent, Director of Finance, the "Green Team" Committee and other positions responsible for implementing this policy, shall periodically meet and evaluate the success of this policy's implementation.

1.8 DEFINITIONS

"American Society for Testing & Materials" means ASTM International, an open forum for the development of high quality, market relevant international standards use around the globe.

"Bio-Based Products" means commercial or industrial products (other than food or feed) that utilize agricultural crops or residues but does not include products made from forestry materials.

“Biodegradable Plastic” means the degradation of the plastic must occur as a result of the action of naturally occurring microorganisms.

“Biodegradable Products Institute” (BPI) is a multi-stakeholder association of key individuals and groups from government, industry and academia, which promotes the use, and recycling of biodegradable polymeric materials (via composting). BPI does not create standards but certifies products that demonstrate they meet the requirements in ASTM D6400 or D6868, based on testing in an approved laboratory.

“Buyer” means anyone authorized to purchase or contract for purchases on behalf of the City or its subdivisions.

“The Carpet & Rug Institute” (CR1) is the national trade association representing the carpet and rug industry. CR1 has developed and administered the “Green Label” indoor air quality testing and labeling program for carpet, adhesives, cushion materials and vacuum cleaners.

“Chlorine Free” means products processed without chlorine or chlorine derivatives.

“Compostable Plastic” means plastic that is biodegradable during composting to yield carbon dioxide, water and inorganic compounds and biomass, at a rate consistent with other known compostable materials and leaves no visually distinguishable or toxic residues.

“Contractor” means any person, group of persons, business, consultant, designing architect, association, partnership, corporation, supplier, vendor or other entity that has a contract with the City or serves in a subcontracting capacity with the City or with an entity having a contract with the City for the provision of any goods or services.

“Degradable Plastic” means plastic that undergoes significant changes in its chemical structure under specific environmental conditions.

“Dioxins & Furans” are a group of chemical compounds that are classified as persistent, bioaccumulative, and toxic by the U.S. Environmental Protection Agency (EPA).

“Energy Star” means the U.S. EPA’s energy efficiency product labeling program.

“Energy Efficient Product” means a product that is in the upper twenty-five (25%) percent of energy efficiency for all similar products, or that is at least ten (10%) percent more efficient than the minimum level that meets Federal standards and guidelines.

“Electronic Product Environmental Assessment Tool” (EPEAT) is a procurement tool to help institutional purchasers in the public and private sectors evaluate, compare and select desktop computers, notebooks and monitors based on their environmental attributes.

“Federal Energy Management Program” is a program of the Department of Energy that issues a series of Product Energy Efficiency Recommendations that identify recommended efficiency levels for energy-using products.

“Forest Stewardship Council” (FSC) is a global organization that certifies responsible, on-the-ground forest management according to rigorous standards developed by a broad variety of stakeholder groups.

“Green Building Practices” means a whole-systems approach to the design, construction, and operation of buildings and structures that helps mitigate the environmental, economic, and social impacts of construction, demolition, and renovation. Green Building Practices such as those described in the LEED IM Rating System, recognize the relationship between natural and built environments and seeks to minimize the use of energy, water, and other natural resources and provide a healthy productive environment.

“Green Seal” is an independent, non-profit environmental labeling organization. Green Seal standards for products and services meet the U.S. EPA’s criteria for third-party certifiers. The Green Seal is a registered certification mark that may appear only on certified products.

“Integrated Pest Management (IPM)” is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and non-target organisms, and the environment.

“LEED IM Rating System” means the most recent version of the Leadership in Energy and Environmental Design (LEED™) Commercial Green Building Rating System, or other related LEED IM Rating System, approved by the U.S. Green Building Council and designed for rating new and existing commercial, institutional, and high-rise residential buildings.

“Organic Pest Management” prohibits the use and application of toxic chemical pesticides and strives to prevent pest problems through the application of natural, organic horticultural and maintenance practices. All pest control products shall be in keeping with, but not limited to, those products on the approved list of New Jersey Certified Organic Foods (NJOF).

“Postconsumer Material” means a finished material which would normally be disposed of as a solid waste, having reached its intended end-use and completed its life cycle as a consumer item, and does not include manufacturing or converting wastes.

“Practical” & “Practicable” mean whenever possible and compatible with local, state and federal law, without reducing safety, quality, or effectiveness and where the product or service is available at a reasonable cost in a reasonable period of time.

“Preconsumer Material” means material or by-products generated after manufacture of a product is completed but before the product reaches the end-use consumer. Preconsumer material does not include mill and manufacturing trim, scrap or broke which is generated

at a manufacturing site and commonly reused on-site in the same or another manufacturing process.

“Recovered Material” means fragments of products or finished products of a manufacturing process, which has converted a resource into a commodity of real economic value, and includes pre-consumer and postconsumer material but does not include excess resources of the manufacturing process.

“Recycled Content” means the percentage of recovered material, including pre-consumer and postconsumer materials, in a product.

“Recycled Content Standard” means the minimum level of recovered material and/or postconsumer material necessary for products to qualify as “recycled products.”

“Recycled Product” means a product that meets the City’s recycled content policy objectives for postconsumer and recovered material.

“Remanufactured Product” means any product diverted from the supply of discarded materials by refurbishing and marketing said product without substantial change to its original form.

“Reused Product” means any product designed to be used many times for the same or other purposes without additional processing except for specific requirements such as cleaning, painting or minor repairs.

“Source Reduction” refers to products that result in a net reduction in the generation of waste compared to their previous or alternate version and includes durable, reusable and remanufactured products; products with no, or reduced, toxic constituents; and products marketed with no, or reduced packaging.

“U.S. EPA Guidelines” means the Comprehensive Procurement Guidelines established by the U.S. Environmental Protection Agency for federal agency purchases as of May 2002 and any subsequent versions adopted.

“Water-Saving Products” are those that are in the upper twenty-five (25%) percent of water conservation for all similar products, or at least ten (10%) percent more water-conserving than the minimum level that meets the Federal standards.

Green Purchasing Policy Creation and Guidance

Environmental, health, and safety concerns are increasingly being integrating into strategic sourcing. Government waste, emissions, and environmental risks are being recognized as often being directly linked to the quantity and quality of the goods and raw materials a government buys.

Set purchasing goals by developing, implementing and maintaining the following (based on the [US Federal Green Challenge Purchasing Goals](#)):

- A green purchasing policy that covers the following product types:
 - Construction Products: Building insulation, Carpet (polyester), Carpet cushion, Cement and concrete, Consolidated and reprocessed latex paint, Floor tiles, Flowable fill, Laminated paperboard, Modular threshold ramps, Nonpressure pipe, Patio blocks, Railroad grade crossing surfaces, Roofing materials, Shower and restroom dividers/partitions, Structural fiberboard, Proposed: Nylon carpet and nylon carpet backing
 - Landscaping Products: Compost and fertilizer made from recovered organic materials, Garden and soaker hoses, Hydraulic mulch, Lawn and garden edging, Plastic lumber landscaping timbers and posts
 - Miscellaneous Products: Awards and plaques, Bike racks, Blasting grit, Industrial drums, Manual-grade strapping, Mats, Pallets, Signage, Sorbents
 - Nonpaper Office Products: Binders, Clipboards, File folders, Clip portfolios, Presentation folders, Office furniture, Office recycling containers, Office waste receptacles, Plastic desktop accessories, Plastic envelopes, Plastic trash bags, Printer ribbons, Toner cartridges
 - Paper and Paper Products: Commercial/industrial sanitary tissue products, Miscellaneous papers, Newsprint, Paperboard and packaging products, Printing and writing papers
 - Park and Recreation Products: Park benches and picnic tables, Plastic fencing, Playground equipment, Playground surfaces, Running tracks
 - Transportation Products: Channelizers, Delineators, Flexible delineators, Parking stops, Traffic barricades, Traffic cones
 - Vehicular Products: Engine coolants, Rebuilt vehicular parts, Re-refined lubricating oils, Retread tires
- A green cleaning policy that addresses sustainable cleaning systems and products, chemical concentrate and dilution systems, proper training, minimized use of antimicrobial hand soaps, and reduced impacts on indoor air quality.
- An integrated pest management policy that addresses pest control through integrated methods, inspections, populations monitoring, and a pest control need evaluation.
- Pollinator habitat that will allow pollinators, such as bees, butterflies and birds to flourish locally.
- A green meeting and events policy that reduces the environmental impacts associated with travel, hotel accommodations, food services and event activities.

- A green transportation policy that incorporates SmartWay-certified fleet vehicles and freight shipped by an EPA SmartWay partner.
- A policy limiting the use of city funds to purchase bottled water.

From the NAPS Guide:

<https://www.naspo.org/green/index.html#sectionfour>

- **DRAFTING YOUR GREEN PURCHASING POLICY**

- A key step in establishing an environmentally preferable policy is the development of factors that should be utilized when developing green specifications for products and services. Though not every factor may influence the development of every green specification, policies should provide a comprehensive list of environmental attributes that might be applied to any product category.

The following list is a set of environmental factors commonly used in many green purchasing policies:

- pollutant releases
 - toxicity, especially the use of or release of persistent, bio-accumulative, and toxic (PBT) chemicals, carcinogens, and reproductive and developmental toxins
 - waste generation and waste minimization
 - end-of-life considerations such as reusability, recyclability, or compostability
 - greenhouse gas emissions
 - energy consumption, energy efficiency and the use of renewable energy
 - water consumption
 - depletion of natural resources
 - impacts on biodiversity
 - environmental practices that manufacturers and suppliers have incorporated into their production processes or operations
 - minimized packaging
 - social responsibility, including efforts to address labor rights, human rights, and community engagement across the lifecycle of the product
- Price Preferences - Approximately one-third of states allows a price premium to be applied to environmentally preferable or green purchases. Such premiums range from five to ten percent, or greater. Due to the disparate nature of products, not every product or service requires the application of a price preference. Therefore, policies tend to provide a procurement office with the flexibility to apply premiums on a product category-specific basis. For example, the City of Seattle's policy reads as follows:

"City Purchasing does not calculate a direct price preference for recycled products in the selection of winning bidders because the City prefers to directly implement product decisions that are most environmentally preferable.

The City instead establishes a minimum specification with the most environmentally preferable solutions for particular products, and may also utilize a scored evaluation criteria allowing additional points for positive environmental product options, corporate practices, and other environmental solutions proposed by the Bidder."

- Waivers - Due to the dynamic nature of the EPP marketplace and the unique needs of product end-users, environmentally preferable purchasing policies tend to outline scenarios in which the purchase of an environmentally preferable product is not necessary. Policy language tends to identify the following as viable justification for a waiver from the EPP policy:
 - The sustainable product does not meet the required form, functionality, or utility
 - The sustainable product is prohibitively expensive or cannot be competitively priced
 - An emergency or compelling public health or safety reason exists to prohibit the purchase of the sustainable product

- **STRATEGIES TO GARNER MORE "GREEN"**

- Statutory Requirements
 - Federal agencies and many state and local governments are encouraged or required to buy recycled content products that meet the recommended procurement guidelines established by the U.S. Environmental Protection Agency. The designated products are:
 - construction products
 - landscaping products
 - non-paper office products
 - paper and paper products
 - park and recreation products
 - transportation products
 - vehicular products
 - miscellaneous products
- Inform vs Mandate

The success of programs can be attributed in part to comprehensive education and outreach to those involved in procurement, education on

the environmental issues associated with purchasing goods and services, and outreach on the benefits - both economic and environmental - that have been realized through these efforts. While this process of educating rather than mandating may take a little longer it tends to do a better job of engaging both purchasers and the suppliers in the process by providing them with a sense of ownership. It also presents staff with interesting professional development opportunities.

- Best Value vs Lowest Price

For example, the State of Washington is required to grant awards to the lowest responsive bidder. The state is able to award products/services that may be a higher purchase price than a non-EPP product/service by using green performance specifications and non-cost factors to consider for evaluation purposes. This will determine the best bidder, not just the lowest bidder. The State of Washington has developed a "best value calculator," which helps identify the appropriate weighting for cost and non-cost considerations. The State of Washington's Best Value Calculator is available here:

https://www.naspo.org/green/Washington_Best_Value_Calculator%2012-3-13.xlsx

- Set-asides and Price Preferences

A set-aside mandates that a certain percentage of a particular product purchased must include post-consumer recycled material. Price preferences enabled purchasers to pay more for recycled products up to a certain threshold (e.g., within five percent of the non-recycled product price).

- Solution-based Contract Categories

A solution-based approach begins with a "what is meant to be achieved" approach instead of beginning with a specific problem. This creative method can often simultaneously explore both the problem and possible solutions, and potentially capture innovative technologies in that particular procurement area. Such a category should be generic enough to allow bidders the flexibility to describe and offer their technology for consideration, yet specific enough to meet certain basic environmental criteria. The purpose of introducing such a section in your contract bid is to gather information on what's new in the marketplace that may offer environmental as well as economic benefits. This will also give your agency the chance to put it on the contract as an alternative to the conventional product you will award in the main category. Once on contract, it allows interested agencies to try the new product or technology to determine its effectiveness.

- **MAKE IT SIMPLE - EASE THE BURDEN**

- Plucking the Low-hanging Fruit

The following are some easy opportunities ripe for jumpstarting green procurement:

- Recycled content products - Utilizing materials collected in municipal, business, and other recycling programs strengthens revenue markets for those reused materials, reduces the waste stream going to landfills and incinerators, and works to create economic development opportunities within the emerging industry. Products containing post-consumer recycled content are available for paper goods, plastics, metals, petroleum products, and more. Such products include office papers and envelopes, packaging, plastic lumber, traffic cones, re-refined motor oil, antifreeze, and toner cartridges, just to name a few.
- Energy efficient products - The U.S. Energy Star program is a universal and credible means of verifying a product's energy efficiency. This program maintained an estimated sixty standards for products such as copiers, faxes, other office equipment, mail machines, computers, lighting (including traffic lights), appliances, air conditioners, heating, ventilation equipment, and more. Purchasers commonly include requirements in their contract that products meet the most recent Energy Star standard available in order to reduce their operational costs through reduced electricity consumption and decreased volume of pollution related to climate change conditions. (See more about Energy Star tools available to calculate cost and energy savings and environmental benefits in the Measuring and Marketing section). More recent developments include Electronic Product Environmental Assessment Tool (EPEAT) or UL Environment. If these aren't familiar to you, check out the links in the Green Purchasing General Resources section of this guide.
- Green cleaning products - According to various reports, as many as one of three cleaning chemicals is considered hazardous due to their flammable, corrosive, or toxic properties. There also may be safety, health, and cost concerns in the handling, storage, and disposal of these chemicals. Some of the chemicals may not cause immediate injury, but rather are associated with cancer, reproductive disorders, respiratory, skin damage, and other health conditions. As a result, many state, local governments, and schools are requiring the use of more benign - but equally high-performing green cleaning products, and they are requiring the products meet the standards of third-party organizations like Green Seal, UL Environment, or EcoLogo. There are an ever growing number of products now being used by states across the country that not only provide improved environmental and health benefits, but will also save money.
- Green computers and office equipment - While maximizing energy efficiency remains an important consideration in procuring computers and



office equipment, purchasers now are able to examine the environmental impacts that come into play within each phase of a product's life, from raw materials extraction and the quantities of energy and water consumed in the manufacturing process, to the end-of-life handling and disposal of hazardous materials in certain components. Using EPEAT, purchasers can evaluate, compare, and select desktop computers, notebooks, and monitors based on their environmental attributes. Products are required to meet nearly two dozen environmental criteria as well as numerous other options. As of early 2008, federal government agencies are required to procure EPEAT registered computer products, with other state and local governments following suit. (Details can be found at www.epeat.net/). UL Environment also offers a similar standard for printers, scanners, copiers, and other office equipment.

- Environmentally preferable papers - Admittedly, paper products may not always be the easiest low-hanging fruit to pluck. Markets for paper recycling are ever-changing, but paying attention to environmental attributes is particularly important because this industry has such a huge impact on forests and is one of the largest consumers of water and energy. It is crucial for complying with federal standards for recycled content on janitorial papers, office paper, and envelopes, to specify a goal of being 100% post-consumer recycled content paper, processed chlorine-free, or post-consumer recycled content to the maximum practicable level. For less than 100% post-consumer recycled content, use post-consumer recycled content to the maximum extent practicable. Also use non-recycled content derived from a sustainably-managed renewable resource and certified as such through an appropriate third party certification program recognized by the paper industry, such as the Forest Stewardship Council (FSC) or Sustainable Forestry Initiative (SFI). Depending on the volume of paper purchased and the region of the country, many buyers are able to procure environmentally preferable paper without increasing costs. Others implement paper reduction strategies and offset differences in price by setting office equipment to default to duplex printing, widening margins, and encouraging paperless practices to. It is also recommended that publications and other printed items use processed chlorine-free (PCF) paper to the maximum extent possible.
- Ink - Printing should require the use of water or vegetable-based lithographic ink to the maximum extent practicable, which will reduce the amount of VOCs released into the environment. Wherever possible, printing should reduce or eliminate the use of color.
- Don't forget services - Buyers may also include these requirements in service contracts, including landscaping, custodial, printing, pest control, and other services contracts.

- Leveraging the Power of the Contract

Consider a few strategies already being used by purchasers across the country:

 - Let the contract do the work - To weed out unacceptable products from the start, establish minimum standards and specifications concerning environmental criteria (e.g., certain percentages of post-consumer recycled content, Energy Star compliance, cleaning products certified by an independent third party). If needed, give preference in the evaluation to bidders who can provide SPs, or require all bidders to provide an EPP alternative along with other bid items. Include flexibility in the contract that requires awarded contractors to add green items during the contract term.
 - Tap the resources of suppliers - Require all contractors to offer training on the products, equipment, or services they are providing (e.g., require that copier suppliers train customers on power management and paper-saving features and guarantee that recycle paper will not be faulted for equipment problems, and require cleaning distributors to include staff training at no additional charge). Require suppliers to identify SPs in catalogs and online ordering systems and take back products for recycling after their useful life, and provide annual reports to agencies on EPP purchasing.
 - Require contractors to green their operations - Include language in the bid document that requires contractors to examine their operations and suggest areas in which they may implement environmental initiatives or purchase SPs. This type of initiative does not create a burden on the bid process, as it only applies to suppliers receiving an award. However, it does enable states to increase the positive impact of their purchasing and educate suppliers on the benefits of greening their operations. Such initiatives may include asking suppliers to identify clearly the recycled content of packaging, use recycled content papers for marketing materials, use alternative-fuel vehicles for deliveries, equip diesel vehicles with emission-control retrofit technologies, and work toward a goal of zero waste in their warehouse, manufacturing, or office operations.

- Verifying Green Claims

In the rush to stay competitive in a green world, some manufacturers are unwilling to make the necessary investment to achieve a greater environmental standard, and instead invest in creative advertising, or exaggerating a product's environmental benefits. Such a practice is called "greenwashing," and is often illustrated by using unproven or useless claims like "earth-friendly," "eco-safe," "all natural," "ozone-safe," and others. Although verifying claims may be challenging, fortunately there are tools available to assist purchasers and supply chain managers to determine which environmental claims are accurate and relevant, and which ones should be ignored.

The Federal Trade Commission states an environmental marketing claim should:

- Have qualifications and disclosures that are clear enough to prevent deception
- Make it clear whether the environmental attribute or benefit being asserted refers to the product, the product's package, or to a portion or component of the product or packaging
- Not overstate the environmental attribute or benefit, expressly or by implication
- Include a statement that makes the basis of comparison clear so that the consumer should be able to understand the claim

There are four basic categories of eco-labels:

- eco-labels issued by an independent third party
- partnership and recognition programs
- eco-labels issued by a trade group or industry association
- eco-labels issued by a company for its own product or "self-declared"

Greenwashing:

- Fibbing - making false claims that a product meets UL Environment, EcoLogo, or Green Seal standards
- Unsubstantiated claims - commonly known as "just trust us," manufacturers are unable to prove their environmental claims
- Irrelevance - making factually correct environmental statements that are no longer relevant due to modern bans and/or laws
- The hidden trade-off - making claims about a single environmental attribute, thereby leading consumers to think that it is the only environmental attribute of concern
- Vagueness - broad environmental claims such as "100 percent natural," "Earth Smart," and "Ozone Safe"
- Relativism - as compared to other products in a given category, a product may be the most environmentally friendly, but still a poor choice
- Because of potential greenwashing, and the distance between purchasers and production, third party certifications are an important component in verifying green claims. The most frequently cited environmental certification and guidance programs are as follows:

Self-Certification:

- Energy Star Program - www.energystar.gov/
- EPEAT - www.epeat.net

Independent, Third Party Certification Organizations:

- Chlorine Free Products Association - www.chlorinefreeproducts.org/
- Ecolabel Index - www.ecolabelindex.com/
- LEED - www.usgbc.org/

- UL Environment - www.ul.com/environment
- Forest Stewardship Council (FSC) - www.fsc.org
- Green-e - www.green-e.org
- UL GREENGUARD - www.greenguard.org
- Green Seal - www.greenseal.org

Non-Third Party Label (Partnership Program):

- Design for the Environment (DFE) - www.epa.gov/dfe/

- **TOTAL COST OF OWNERSHIP**

- The term Total Cost of Ownership (TCO) is a business economic term that should not be confused with Life Cycle Analysis (LCA), a term more closely aligned with environmental considerations. As a consideration of costs, TCO focuses more on the useful life of a purchased item including the cost of acquisition (price + delivery), operation (including energy use if applicable), and disposal.

- **MEASURING AND MARKETING YOUR SUCCESS**

- Identify what you would like to measure and establish goals to meet those metrics
- Establish a current baseline on which to measure progress
- Determine the means of recordkeeping used to document the measurement
- Market and reward achievers

Additional Guidance:

- National Association of State Procurement Officials [Green Purchasing Guide](#)
- EPA Sustainable Marketplace: [Green Products and Services](#)
- Sustainable New Jersey – [Adopt a Green Purchasing Policy by Ordinance](#), including sample policies

Michigan Green Communities

Michigan Green Communities ranks participating communities on green purchasing and green buildings policies.

- Bronze level actions include developing a green purchasing policy.
- Silver level actions include developing a green building policy for local government facilities

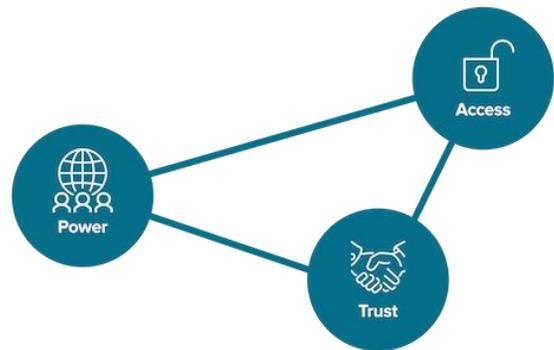
- Gold level actions include achieving green building certification for a local government building.

The City can make process and move toward becoming a Gold level Michigan Green Community by developing a green purchasing policy.

U. S. Communities Government Purchasing Alliance/ OMINA Partners

Utilize the US Communities Government Purchasing Alliance/ OMNIA Partners, Public Sector. . The Alliance offers access to publicly bid competitive contracts for various products and services.

- **No Cost to Participate:** there is no cost to register, no commitments and no minimum orders.
- **Best Value:** by combining the cooperative purchasing power of 87,000 public agencies, suppliers commit to providing their highest valued programs.
- **Quality Brands:** thousands of the best products in a wide variety of categories, services and solutions.
- **Oversight by Public Purchasing Professionals:** third-party audits ensure program pricing commitments are met while we provide ongoing program leadership and direction.



<https://www.omniapartners.com/publicsector/who-we-serve/local-government>

MiDEAL Extended Purchasing Program

MiDEAL is an extended purchasing program which allows Michigan local units of government to use state contracts to buy goods and services. To become a member, send an email to MiDEAL@michigan.gov. A \$230.00 annual membership fee would apply for Traverse City.

https://www.michigan.gov/dtmb/0,5552,7-358-82550_85753---,00.html

TO: The City of Traverse City

FROM: Alexandra Harry; Institute for Market Transformation (IMT)

RE: High-Performance Lease Recommendations

A common barrier to reducing energy use in leased spaces is a lack of shared understanding by both landlord and tenant about how a building performs and what potential improvements make economic sense. This barrier is easily overcome when both parties make energy a priority. Landlords and tenants can improve everyone's bottom line by agreeing to investigate potential energy efficiency projects and then sharing the associated costs and benefits.

[IMT](#) has been at the forefront of engaging with stakeholders interested in optimizing their leases over the course of several years. To help small business landlords and tenants cut energy waste and save resources, IMT, in coordination with the Traverse City Area Chamber of Commerce, launched the [Small Business Energy Initiative](#). It is designed to provide free, energy-saving guidance to small businesses nationwide.

What is a high-performance lease?

A high-performance lease, also called a green or energy-efficient lease, aligns the financial and environmental goals of landlords and tenants to work together to save money, conserve resources, to ensure the efficient operation of buildings.

Turning the lease into a more powerful business tool for both landlords and tenants

Energy use affects both building owners and tenants, and yet in many commercial lease structures, the party expending capital for an energy efficiency upgrade does not benefit from the savings created by that upgrade. High-performance leases are a tool to help resolve this split incentive by creating win-win agreements for building owners and tenants that equitably align the costs and benefits of energy and water efficiency investments for both parties.

The language in the lease can:

- **meet City climate goals**
- **increase opportunities for renewable energy**
- improve the environmental sustainability of commercial properties
- reduce operating costs
- help achieve green building certifications such as Leadership in Energy and Environmental Design (LEED)
- encourage landlords and tenants to invest in long-term, energy-efficient solutions

Take the next step towards optimizing your lease. After reading the suggestions below, contact [Alex Harry at IMT](#) to discuss how to improve your lease.

IMT's High-Performance Lease Recommendations

IMT reviewed the Crooked Tree Arts Council Lease and the City Opera House Heritage Association Leases. The Crooked Tree lease requires the City to pay all the utilities and maintain the core and shell and HVAC servicing

the building. For the City Opera House lease, the tenant must cover utilities and the City can reserves portions of the Opera House's income to cover expenses related to the building. Similar to the Crooked Tree Lease, the City maintains the core and shell and HVAC.

To increase the high performance of the building and to align with the City's climate, IMT suggests the City focus on updating leases with the language below. IMT has provided language in these sections that work toward mutually benefitting the tenant and the landlord.

Energy-aligned Language

Create opportunities for dialogue with your tenants. Use this language as a first step towards greening City leases.

Provide Sustainability Contact

Ensure that tenants will be able to easily communicate with the correct person at the City if there is a need to discuss energy efficiency, retrofits, billing issues, etc.

Landlord and tenant shall provide a point of contact to discuss issues related to sustainability and energy. Issues include, but not limited to retrofit projects, billing issues, energy efficiency upgrades, and data access. Tenant sustainability contact: Email: Phone: Landlord sustainability contact: Email: Phone:

Request Annual Tenant Energy Disclosure

For the City Opera House Lease, include a clause requiring the tenant to share its energy usage with the landlord at least annually.

Tenant shall be required to submit on a(n) [monthly, quarterly, annual] basis to Landlord energy and water consumption data, including total usage and total charges as they appear on Tenant's electric, gas, water, and other utility bills, in a format deemed reasonably acceptable by Landlord.

Capital Expense Sharing Landlords incur capital expenses while making energy retrofits to their buildings, tenants often receive the monetary benefits attributed to the decrease in energy consumption. This lease creates an incentive disconnect so that landlords have little incentive to make such energy efficiency improvements. Use a cost recovery clause to recoup capital costs for energy efficiency improvements made to the building.

Landlord may include the costs of certain capital improvements [intended to] [that] improve energy efficiency in operating expenses of tenant space. The amount passed through by Landlord to Tenant in any one year shall not exceed the prorated capital cost of that improvement over the expected life cycle term of that improvement [and shall not exceed in any year the amount of operating expenses actually saved by that improvement]. Interest/the cost of capital can be included.

Consider this language below to meet the City's clean energy goals.

Landlord's Right to Onsite Generation Use this language to pursue onsite generation at City-owned properties. *Landlord shall be entitled at any time or from time to time to acquire all or part of the electrical power for the Building from sources with low greenhouse gas emissions.*

Require Tenants to Purchase On-Site Renewables if Offered by Landlord and

Competitively Priced If onsite generation is available, require tenant purchase energy at a price offered at or below the local utilities. *Tenants shall purchase energy from on-site renewables as provided by the landlord via a Power Purchase Agreement (PPA). Landlord shall install, own, and maintain the on-site generation and sell power directly to the Tenants at a fixed rate that is at or below electricity rate offered by local utilities.*

Renewable Energy Credits (RECs) Include this language to determine how RECs will be applied to the property. *Any carbon offset credits, renewable energy credits, tradable renewable credits, energy saving certificates, rebates, incentives, offsets, allowances and other similar entitlements, now or hereafter existing (“Renewable Credits”) received by the Property or by Landlord and applicable to the Property shall belong to Landlord except to the extent, if any, to which (i) Tenant may be entitle to them under applicable law, in which event Tenant shall be entitle to the Renewable Credits to the extend required by law, (ii) the same arise directly from any action or activity undertaken by Tenant itself in the Premises that result in decreased consumption of natural resources by the Building or the avoidance of environmental impacts on air, soil or water, or (III) Tenant may have paid as an Operating Charge or contributed to a cost or program that obtained the Renewable Credits and Tenant is not compensated under preceding clause (i) of this subsection (i), in which event Tenant shall be entitle to an equitable share, as determined by Landlord in its reasonable discretion, after first netting out the costs of participating in the carbon reduction program and/or obtaining the credit.*

Rooftop Access and Control: Solar Panels Use this clause if tenants desire to put their own solar panels on the roof. *Tenant shall be entitled to place electrical generating equipment on the Building’s roof pursuant to the terms and conditions set by the Landlord. All of the terms of this Lease shall be applicable to Tenant’s Generating Equipment as if the Generating Equipment were part of the Premises, but Tenant acknowledges that the Generating Equipment is not part of the Premises. The Generating Equipment and rooftop shall not be used for any other purpose without Landlord’s written consent. Tenant shall bear all of the cost and expense of designing, purchasing, installing, operating, maintaining, repairing, removing and replacing the Generating Equipment, and for repairing and restoring any damage to the Building or to Landlord’s or any other person’s or entity’s property arising therefrom. The Generating Equipment shall be installed and maintained by Tenant in a manner reasonably acceptable to Landlord. Nothing herein grants Tenant any right to access the roof of the Building unless accompanied by an employee of the Building Manager or other representative of Landlord, except that access shall be permitted in emergencies. Tenant’s rights to place Generating Equipment on the rooftop are non-exclusive.*

Negotiating with Tenants

Getting tenants to buy into the concept is often a challenge; however, continuous building improvement allows the City to provide its tenants with a level of quality and value which impacts the types of tenants that renew their lease. Some suggestions for having that conversation include:

- *Identify a point person:* Pick a staff member to act as a liaison between the tenant, and any external consultants. A point person ensures that nothing gets lost in translation between internal and external teams.
- *Start Early:* After the energy audit, prioritize implementing the energy saving measures that make the most sense in the short-term. For long-term measures, develop a timeline for upgrades. Begin conversations and revisit your requests with your tenant and your executive team about when to plan energy efficient upgrades.
- *Get a decision maker on your side:* Make your energy efficiency case to upper management. Aim to have at least one decision maker from each group support your case. These resources can help you set realistic boundaries for what tenants will and won’t approve of. Approach decisions makers that are particularly receptive issues related to operational cost savings, productivity and sustainability.



- *Educate Occupants*: Offer to teach the tenant's staff about simple no-cost energy efficiency strategies such as dialing back the thermostat during unoccupied times. Emphasize these strategies as a way to save money on operating expenses and improve building comfort.

Resources

- [Promoting Solar PV on Leased Buildings Guide: Benefits, Barriers, and Strategies](#): This guide outlines the benefits, barriers, and strategies to installing solar on leased buildings. It incorporates information solar industry interviews and project case studies.
- [Making Efficiency Work for You](#) A resource guide that presents starting solutions for commercial owners and tenants to build an energy efficiency plan that includes green leasing guidance, tenant design and operation guides and green leasing case studies.
- [Green Lease Library](#) is a collection of case studies, lease clauses and guidance on green leasing. The website is the result of a collaboration among several stakeholders in the green leasing community and is maintained by IMT.
- [Green Lease Leaders](#): Recognition program who have successfully used high-performance leasing in their operations. The website also includes high-performance leasing educational resources. Page 5 of 5 High Performance Lease Recommendations