

The City's Path Towards Sustainability



*Building a Culture
of Sustainability*

Chippewa Valley
Sustainable Future Festival
August 11, 2012



Green Business Initiative



- The goals of the program include:
 - To market members who are proactively engaging in green business practices and operations.
 - To serve as an environmental public policy conduit between business and other interested organizations.
 - To increase awareness of the economic growth opportunities related to the emerging green economy.
 - To connect existing green-focused organizations with other businesses to promote best practices with sustainable business models.

Green Business Initiative



- Have to be a Chamber member
- 40 points in 5 categories, 50 employees or less, \$50 fee
- 60 points in all 7 categories, more than 50 employees, \$150
- 1) Energy Conservation 2) Purchasing 3) Recycling 4) Transportation 5) Social Capital 6) Waste Prevention 7) Water Conservation
- Approved by Green Business Committee for 2 year terms





Green Tier Legacy Community



- Recognition for cities that go beyond mere environ. compliance
- Preferential status on grants and principal DNR loan forgiveness
- Technical resource team, POC, and network with signatories
- Baseline, Pick Strategy Options, Monitoring, Annual Report, quarterly meetings
- Opportunities w/ GT Businesses (Phillips Plastic, HTI, Cortec, etc.)

The Natural Step



SYSTEM CONDITIONS FOR SUSTAINABILITY

In a sustainable society, nature is not subject to systematically increasing...



...concentrations of substances extracted from the earth's crust,



...concentrations of substances produced by society,



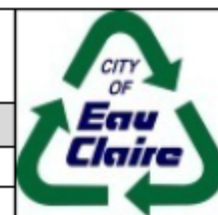
...degradation by physical means,

and, in that society...



...people are not subject to conditions that systematically undermine their capacity to meet their needs.

Top Projects 2012



<i>Project</i>	<i>Description</i>
Energy Indicator	
Renewable Energy Project	Complete solar hot water heating at Fairfax Swimming Pool.
Evaluate Renewable Energy	Study solar farm at Sky Park Landfill and geothermal at Fire Station #9 and Central Maintenance.
EE & C Block Grant	Complete remaining Energy Efficiency & Conservation Block Grant projects by October.
Energy Goals	Keep on 25% renewable energy goal and reduction in energy consumption by 25% by the year 2025.
Water Quality Indicator	
Reduce Irrigation Use	Install more smart sensors to control irrigation use in city parks.
Transportation Indicator	
Bio-diesel Pilot w/CVTC	Test blends of bio-diesel in city fleet vehicles.
Green the Fleet	Procure hybrid buses, more fuel efficient and alternative fueled vehicles.
Bike to Work Month	Employee event to bike more during National Bike Month.
Climate Change Indicator	
Carbon Footprint	Track our municipal operational carbon emission footprint.
Sustainable Development Indicator	
Green Building Best Practices	Guide in using more eco-friendly building products for City construction projects.
Consumption and Waste Indicator	
Reduce Waste Stream	Lessen our impact on the landfill through hauling and waste management.
Material Recovery	Reuse asphalt road milling, construction, demolition, furniture, etc. instead of landfilling.
Reduce Paper & Storage space	Assist in implementing online payroll software, ACS land development office, scanning files, etc.
Green Infrastructure Indicator	
Compost Site	Working with partners, consider developing a public site to divert organic waste away from the landfill.
Urban Tree Preservation	Continue to implement the recommendations of the City's Urban Forest Management Plan.
Social Capital Indicator	
Education	Build awareness of green behavior practices. Continue education to staff and the community.
Reporting	Complete Annual Green Report to track indicator performance.

**City of Eau Claire
Comprehensive Plan
Sustainability
Chapter**



Sustainability plan

Make certain that principles of sustainability in the Eau Claire area are followed to improve our quality of life by meeting present environmental, economic, and social needs without compromising the ability of future generations to do the same.



Energy Objective: Foster local energy production, conservation, and efficiency, while increasing the use of renewable power.

Local Food Objective: Promote area food production, sales, and consumption while reducing food related waste.

Environmental Conservation Objective: Safeguard our eco-systems, trees, soil, water resources.

Atmosphere Objective: Reduce our contribution to global warming and air pollution.

Managing Waste Objective: Promote consumer product awareness, increase recycling rates, reduce the amount of substances entering into landfills.

Strong & Healthy Community Objective: Continue to protect citizens from disease, promote healthy living, civic engagement, cultural and ethnic diversity, while partnering with others to provide these activities.

Sustainable Development Objective: Guide and promote development so buildings and neighborhoods incorporate sustainable features.

Balanced Transportation Objective: Increase mobility choices by enhancing other forms of transportation besides that for automobiles. Design transportation infrastructure efficiently, safely, with the environment in mind, and connect to other local and regional networks.

Greener Economy Objective: Bolster the local economy by attracting Green-collar jobs and encouraging businesses to become more sustainable.

Sustainable Government Objective: Provide good government and cost-effective services, meet the needs of our citizens, protect the environment, and cooperate with other governments.



Renewable Energy

- Goal of 25% by 2025
 - 25x25 Plan w/County & Altoona
 - 18%+ (mostly comes from Xcel Energy)
- Using Geothermal wells at Water Plant
- Anaerobic digestion at WWTP
 - Methane captured in generators to co-power the plant
 - \$200,000 savings/yr. past 30 years
 - 30% estimated increase with future upgrades (new boilers, generators, digester cover, heat recovery)





Solar photovoltaic (PV) facility at a former landfill in Fort Carson, CO.

Sky Park Landfill Solar Project



Community Based Solar?



*"It's smart for our retirement,
and our granddaughters!"*



How it works

What it is

Why join

Community Partners

RemoteMeter

Clean energy 101

Don & Tink Boyer





Kit Carson Cooperative Community Solar

Sun for All - All for Sun!

A Touchstone Energy® Cooperative 

[HOME](#) // [CONTACT](#)

[LEARN](#)

[GET STARTED](#)

[ABOUT CEC](#)

Kit Carson Cooperative Community Solar



Kit Carson Electric Cooperative
has partnered with Clean Energy Collective
to launch New Mexico's
first community solar gardens!



Now Taking Reservations!

New Mexico's 1st Community Solar Farm!



Now you can own solar panels in Kit Carson Cooperative's Community Solar program and start **SAVING** on your electric bill.

[Tell me more >>](#)

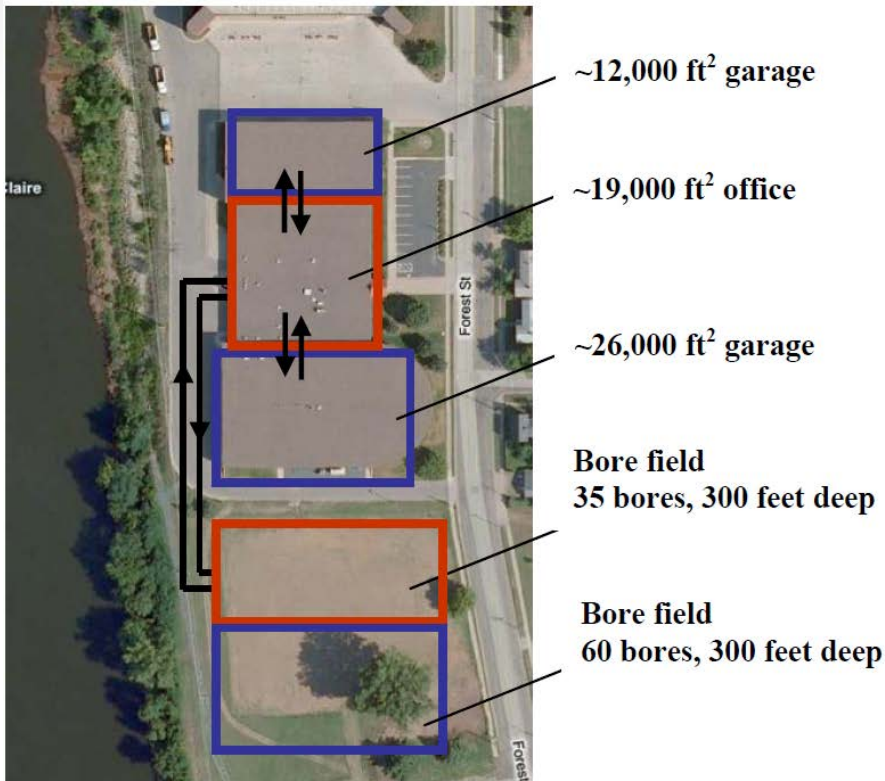
Kit Carson Cooperative Community Solar Farm



For as little as \$845, you can own clean solar power and lower your monthly electric bill without changing your home or office.

[How much can I save >>](#)





Energy Efficiency and Renewable Energy Solutions

November 16, 2010

Prepared For:

City of Eau Claire
County of Eau Claire
City of Altoona

Chippewa Valley 25% by 2025 Partnership
Department of Energy Award Number: DE-EE0000839

Prepared by:

Sustainable Engineering Group
Seventh Generation Energy Systems
Sun Spec
GDS Associates

901 Deming Way • Suite 201, Madison, WI 53717 • 608.836.4468 • Fax 608.836.4477 • www.sustaineng.com

Figure 24. Central Maintenance Facility bore field layout for Office/Shop and Garage Areas.

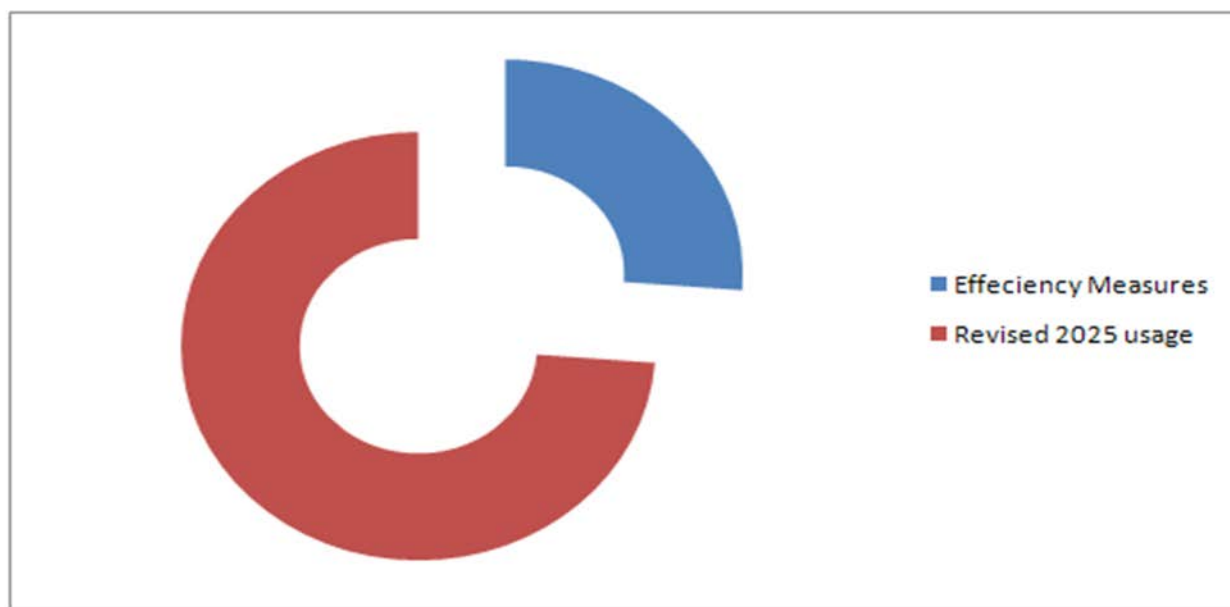
-Fairfax Swimming Pool Solar H₂O project

Energy Efficiency

- \$500k Energy Performance Contract project results in \$75,000/yr. guaranteed savings
 - Envelope improvements, control/ventilation upgrades, lighting retrofits, & steam trap repairs
 - LED traffic signals
 - WI trust fund loan and the annual savings used to pay back the loan
 - Focus on Energy rebates at \$40,000
- EECBG Program \$655K + \$448K funding
 - Improvements at Hobbs Ice Arena and City Hall



	(MMBtu)
.08 rate Projected 2025 usage	186,424
Efficiency Measures	48,896
Revised 2025 usage	137,528
Difference	0.262283826
Energy Reduction goal by 2025	25%



Cost Savings @ 26%

today's prices \$0.08 / kWh **\$ 1,146,447.83**

OR

\$0.75 / therm **\$ 366,720.00**



Lighting Ordinance

CONTOUR
SERIES

LED Area Luminaire Size 2



Specifications

EPA: 1.2 ft²

Length: 35-3/8 (89.7)

Width: 18-1/2 (46.9)

Height: 5-7/8 (14.9)

Weight (3 light engines): 53 lbs (24.0 kg)

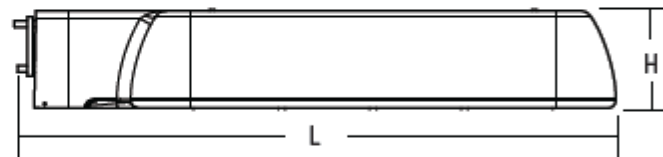
*Weight (4 light engines): 59 lbs (26.8 kg)

*Weight as configured in example below.

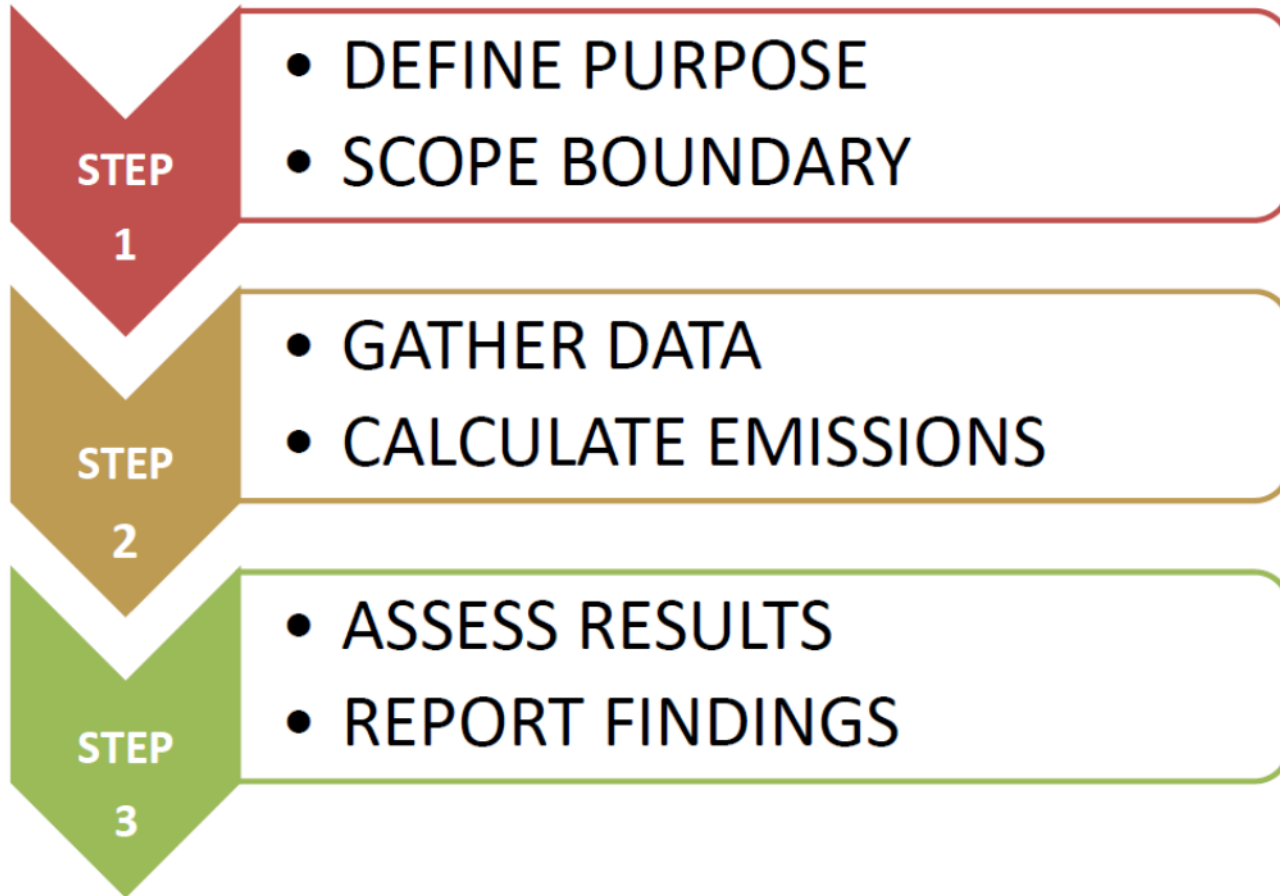
All dimensions are inches (centimeters) unless otherwise noted.



Consistent with LEED® goals
& Green Globes™ criteria
for light pollution reduction



Climate Change





Government Greenhouse Gas Emissions in 2011 Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tonnes)	N ₂ O (kg)	CH ₄ (kg)	Equiv CO ₂ (tonnes)	Bio CO ₂ (tonnes)	Energy (MMBtu)	Cost (\$)
<i>PO - Police Electricity</i>							
Electricity	26	0	0	26	0	120	0
<i>Subtotal PO - Police Electricity</i>	26	0	0	26	0	120	0
<i>PO - Police Gas</i>							
Natural Gas	8	0	1	8	0	149	0
<i>Subtotal PO - Police Gas</i>	8	0	1	8	0	149	0
<i>PW - Public Works Facilities Electricity</i>							
Electricity	441	8	8	444	0	2,040	0
<i>Subtotal PW - Public Works Facilities Electricity</i>	441	8	8	444	0	2,040	0
<i>PW - Public Works Facilities Gas</i>							
Natural Gas	571	1	54	572	0	10,763	0
<i>Subtotal PW - Public Works Facilities Gas</i>	571	1	54	572	0	10,763	0
<i>PWCB - City Hall Electricity</i>							
Electricity	737	13	13	741	0	3,406	0
<i>Subtotal PWCB - City Hall Electricity</i>	737	13	13	741	0	3,406	0
<i>PWCB - City Hall Gas</i>							
Natural Gas	153	0	14	154	0	2,892	0
<i>Subtotal PWCB - City Hall Gas</i>	153	0	14	154	0	2,892	0
<i>PWCBM - Philips Library Electricity</i>							
Electricity	547	10	9	550	0	2,529	0
<i>Subtotal PWCBM - Philips Library Electricity</i>	547	10	9	550	0	2,529	0
<i>PWCBM - Philips Library Gas</i>							
Natural Gas	126	0	12	127	0	2,381	0
<i>Subtotal PWCBM - Philips Library Gas</i>	126	0	12	127	0	2,381	0

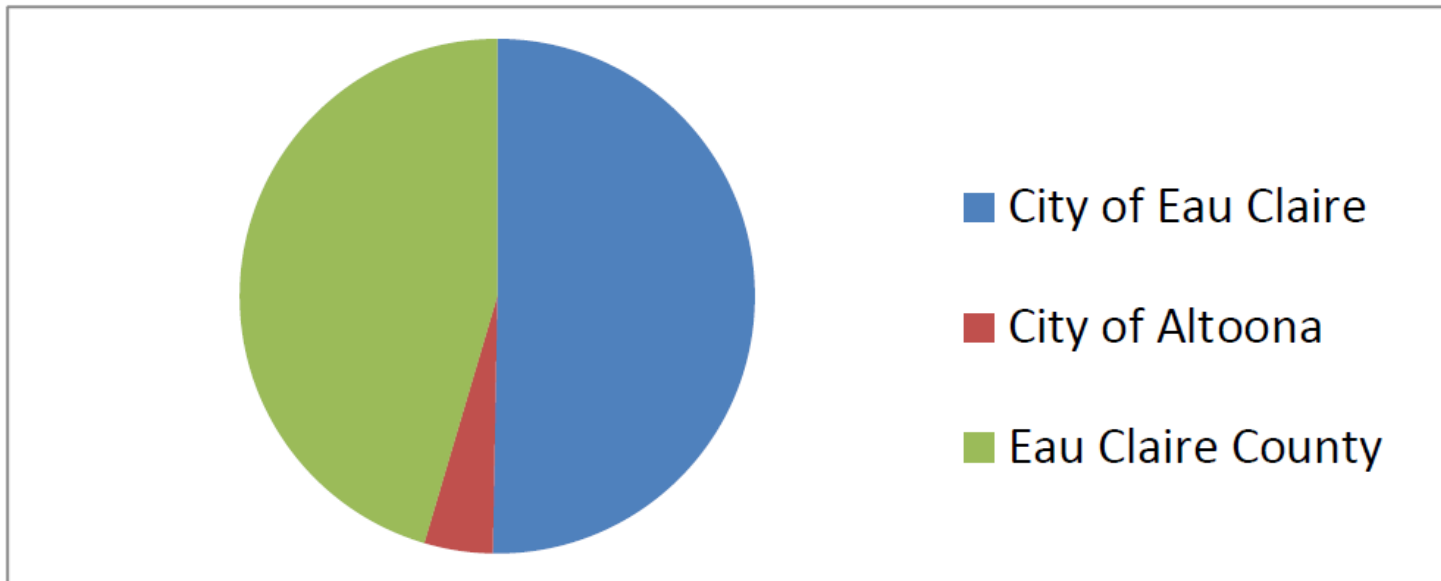
Employee Commuter Survey

#	Answer	Response	%
1	Car	188	96%
2	Carpool	9	5%
3	Bus	4	2%
4	Moped/Motorcycle/Scooter	22	11%
5	Riding a bicycle	25	13%
6	Walking	10	5%
7	Other	4	2%

#	Answer	Response	%
5	I am not likely to take the bus to work	165	87%
1	Wireless Internet access on the buses and at the transit center	10	5%
2	Bus passes discounted for city employees	28	15%
3	Bus passes available as a payroll deduction	8	4%
4	Credit cards accepted on the bus	12	6%

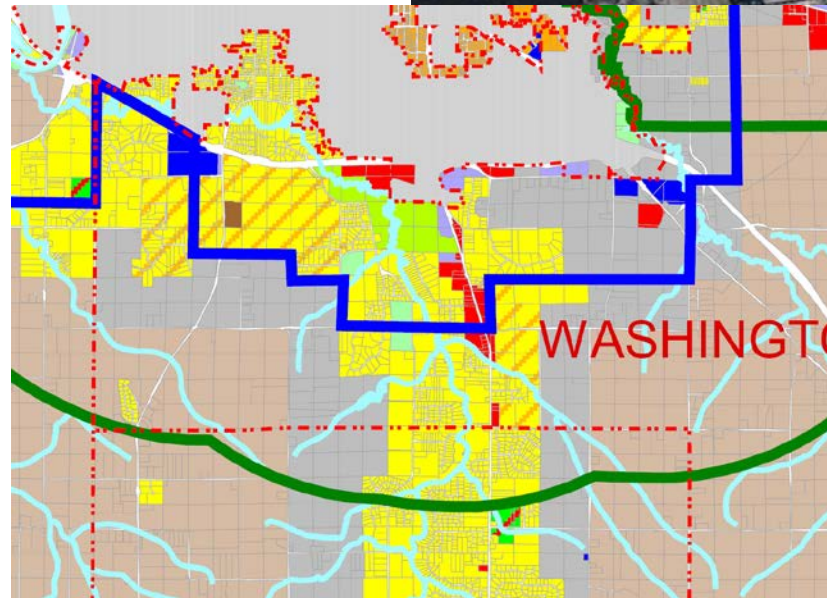
Pounds of CO₂ Avoided from Fossil Emissions

<u>Local Government</u>	<u>Pounds of CO₂</u>	<u>Percent</u>
City of Eau Claire	8,131,720	0.50
City of Altoona	697,848	0.04
Eau Claire County	7,346,275	0.45
Total	16,175,843	



Local Food Security

- Farmers Market
- Community Gardens
- Bonus for downtown grocery
- Ag. Pres. via Inter-governmental Agreements/Sub-Area Plans

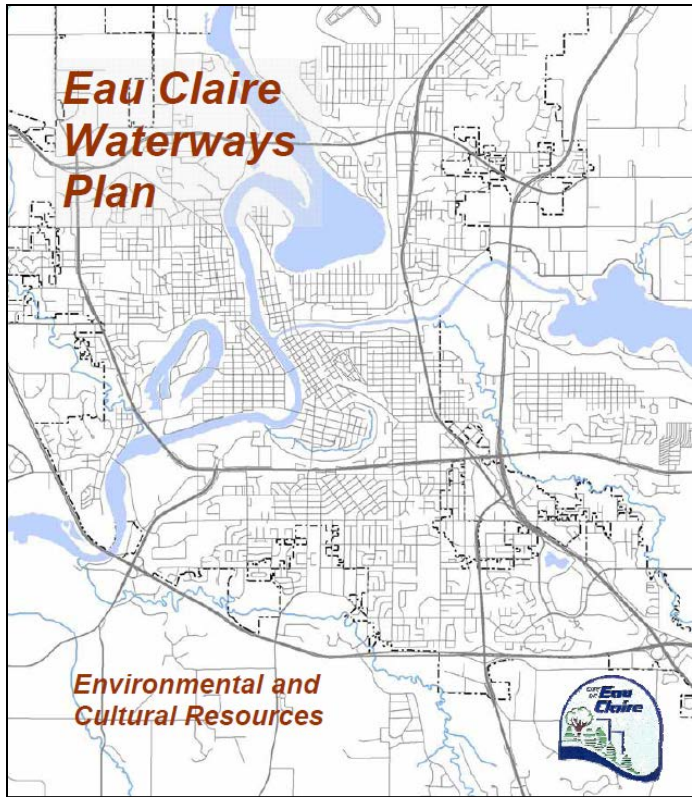


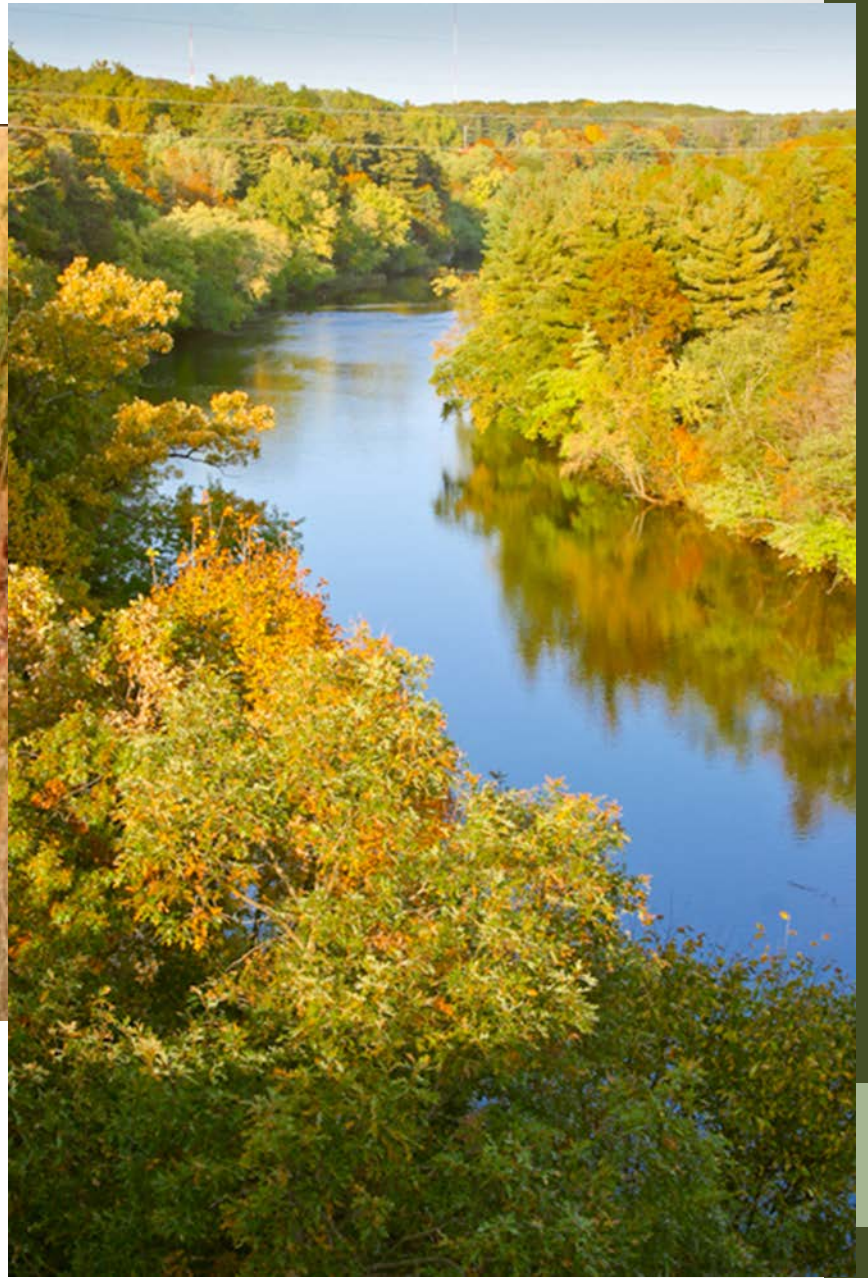
Environmental Preservation

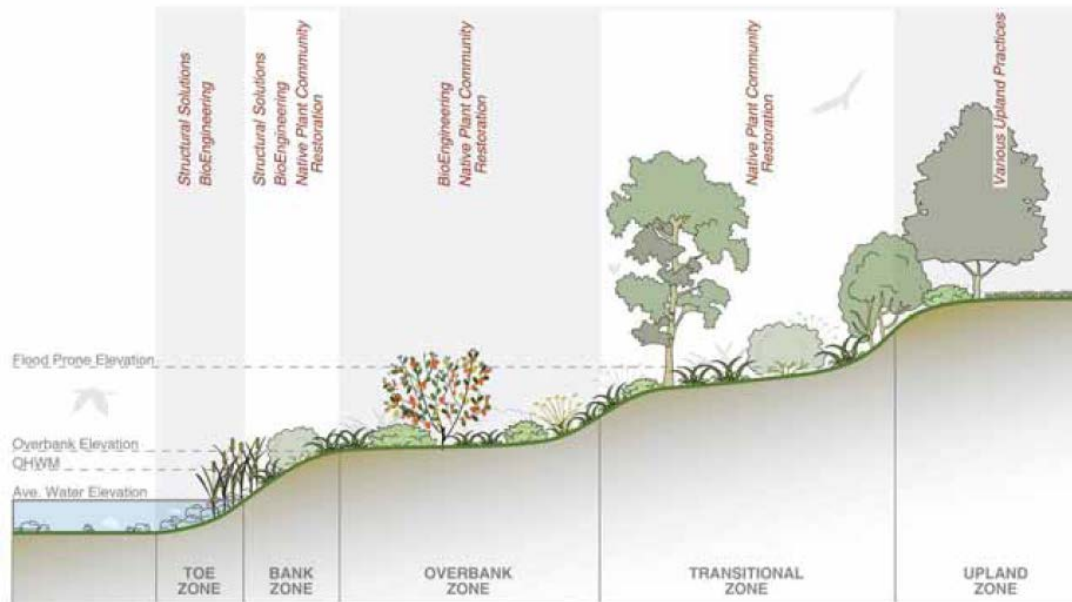


TREE CITY USA®







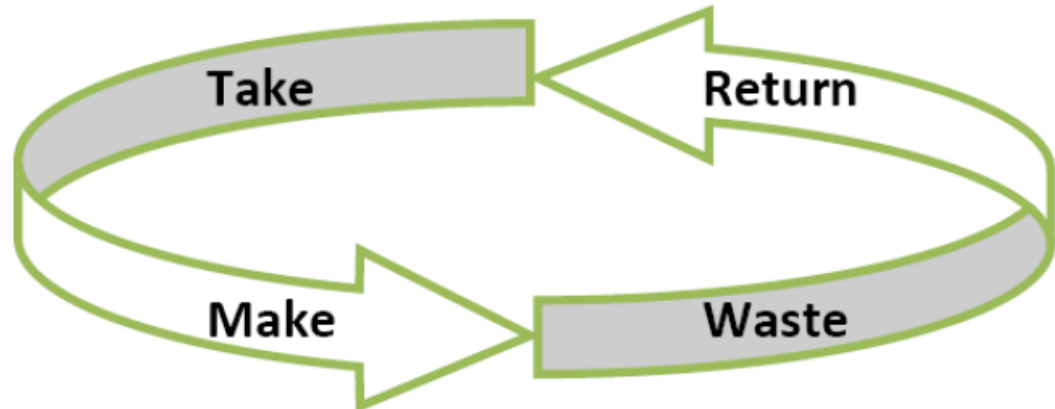


Managing Waste

- Waste Reduction
- Recycling
- Composting
- Construction & Demo Waste



Linear Terminal Model: (Cradle to Grave)



Closed Loop Model: (Cradle to Cradle)



Recovered Gypsum Board at an Eau Claire construction site





City Recycling



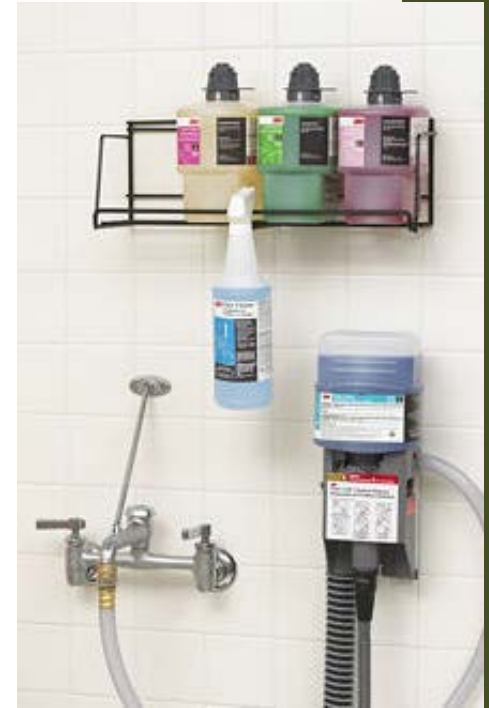
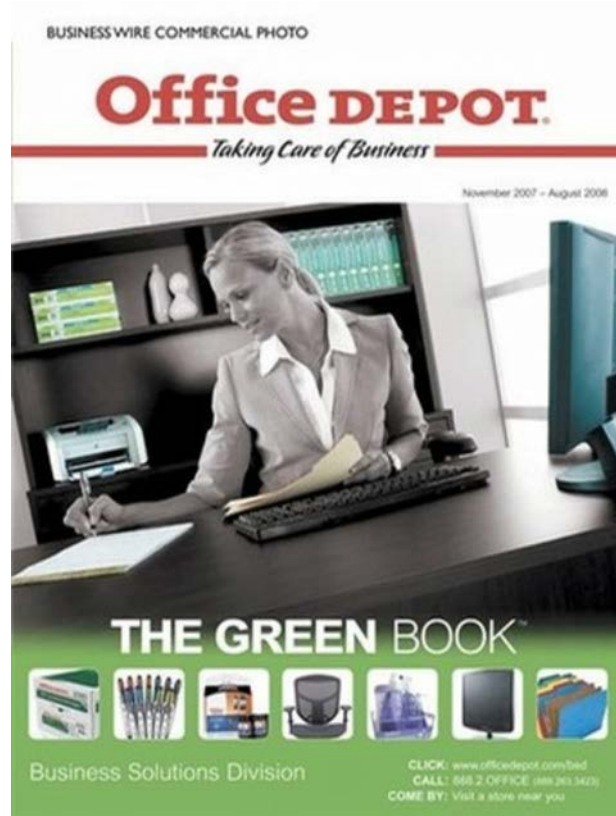


Veolia's Composting Site

City's
Jeffer's Rd.
Brush Site



City Eco-purchasing policy



Strong & Healthy Community

- Safe Routes to School
- Health Chapter - 2012
 - Built environment health impacts on people
- Cultural Chapter - 2013
 - Good Life Plan





**EAU
CLAIRE POLICE**



**L.E. Phillips Memorial
Public Library**



**CITY OF EAU CLAIRE
HOUSING
AUTHORITY**



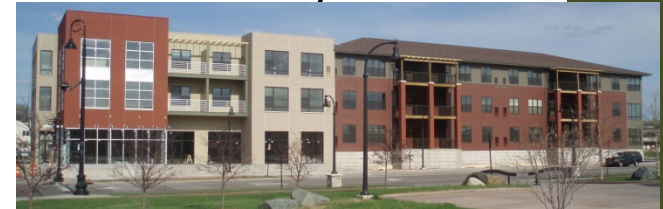
City's Wellness programs

- Weight watchers, spin, yoga & boot camp
- Prevention lowers health insurance costs
- 2,225+ lbs. lost
- 25% quit smoking
- 20% drop for at-risk diabetes & heart attack
- Productivity gains & camaraderie built



Sustainable Development

- Planned Developments/Traditional Neighborhood development zoning
- New C-3 Mixed Use zoning ordinance
- Phoenix Park mixed use
- Redevelopment districts (West Bank & south confluence)
- Water Street Plan for more density
- Encouraging greener buildings
 - LEED, Green Globes, etc.
- Housing Department's Assistance
- CDBG / Infill lot program
- Intergovernmental/Sub-Area planning



Green Buildings



Flynn Elementary

Green Buildings – Hobbs Ice Arena

- High performance lighting
- Low-Emissivity ceilings
- Low-E coated windows
- Waste-heat recovery
- Recycled finished products
- Waste recycled: wood, metal, drywall and plumbing scraps



Green Buildings

Financial Benefits of Green Buildings Summary of Findings (per ft²)

Category	20-year Net Present Value
Energy Savings	\$5.80
Emissions Savings	\$1.20
Water Savings	\$0.50
Operations and Maintenance Savings	\$8.50
Productivity and Health Benefits	\$36.90 to \$55.30
Subtotal	\$52.90 to \$71.30
Average Extra Cost of Building Green	(-3.00 to -\$5.00)
Total 20-year Net Benefit	\$50 to \$65

Source: Capital E Analysis



Case Study - Phoenix Park





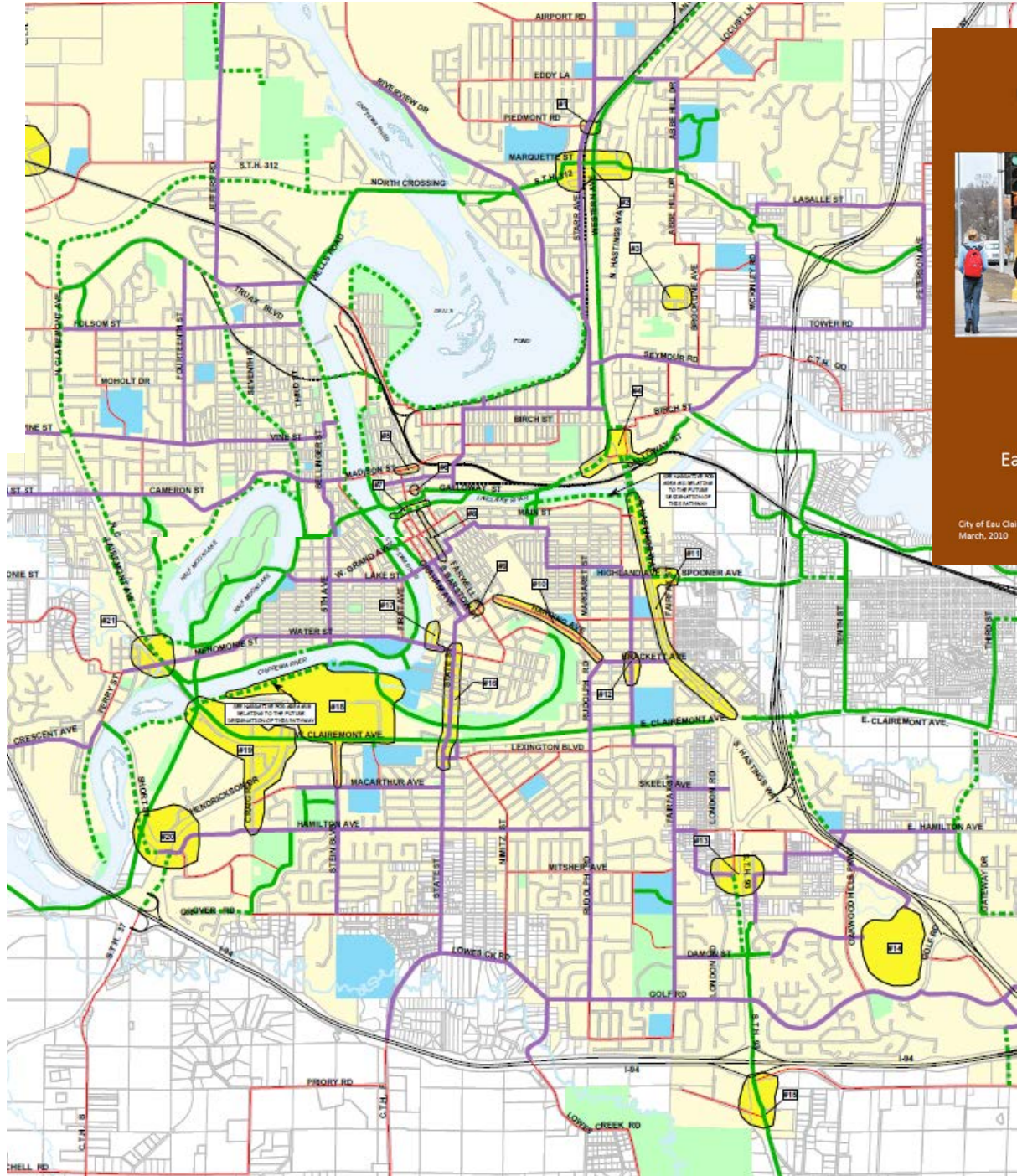
West Riverside Redevelopment



Balanced Transportation

- Midwest High Speed Rail & Gateway Commuter Rail
- Bus Transit & Transit Oriented Development
- UWEC Clean Commute
- Eau Claire Bus Station redevelopment
- Regional Transit Authority – (Repealed)
- Complete Streets – bike and ped. friendly
- Enhance Trail network (25+ miles now)





City of Eau Claire Bicycle and Pedestrian Plan



Eau Claire Comprehensive Plan

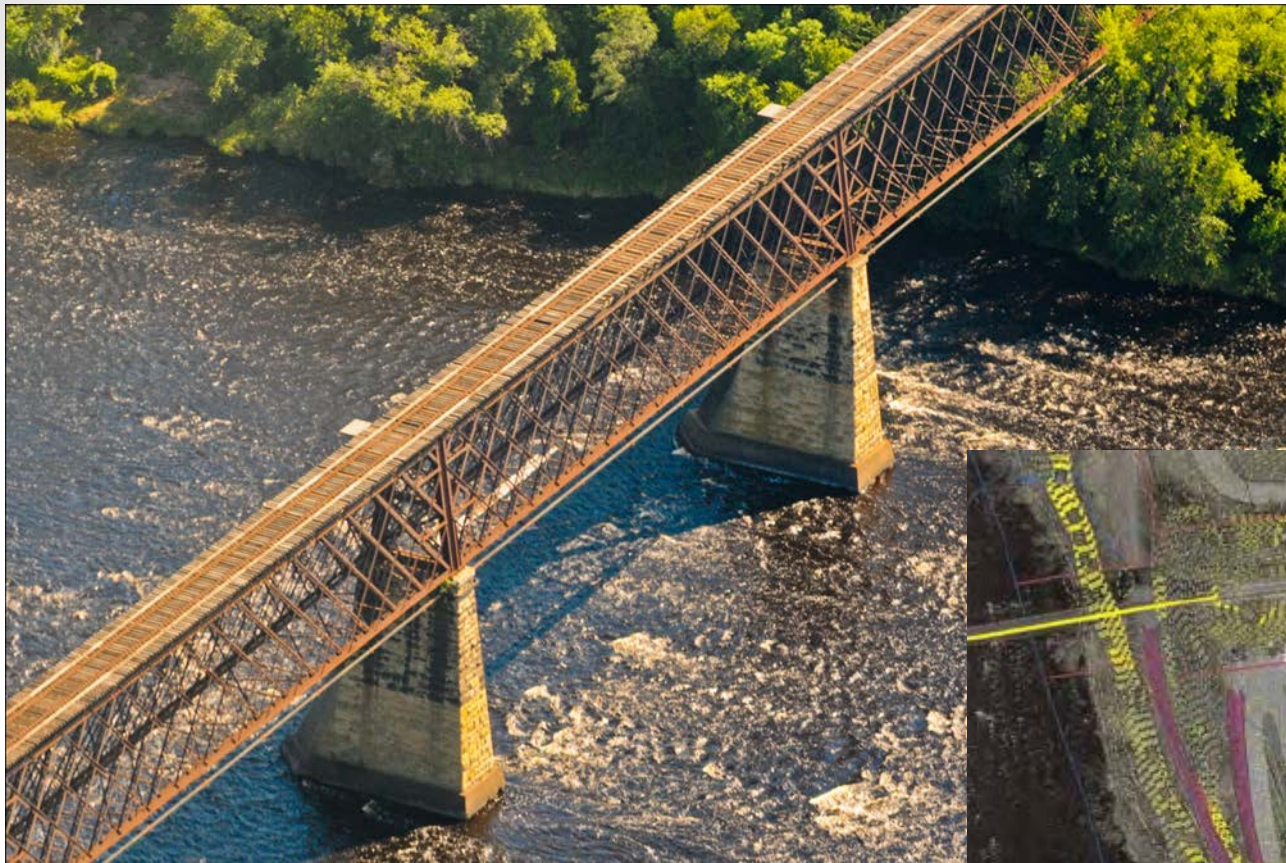
City of Eau Claire
March, 2010



The National Bike Challenge



- This free program runs May 1 to August 31
- Miles logged by City Employees: 11,633
 - (Equals riding from Eau Claire to Los Angeles, 6 times!)
 - Calories burned by City Employees: 130,118
- As a community Eau Claire is also excelling in the challenge:
 - Miles logged by all citizens of the City of Eau Claire: 31,131
 - Calories burned by citizens of the City of Eau Claire: 575,010

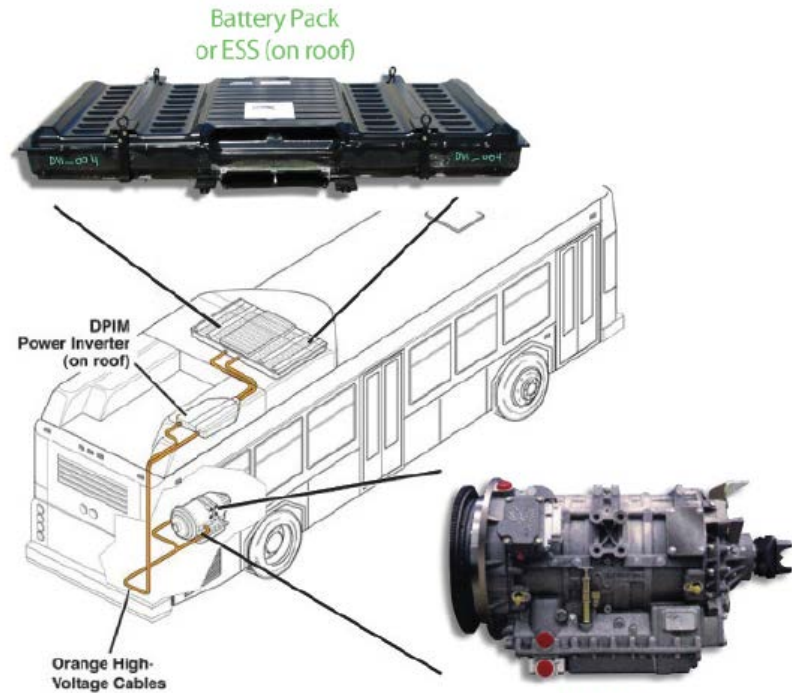


High Bridge Trail – Summer 2013





Bio-diesel blending project



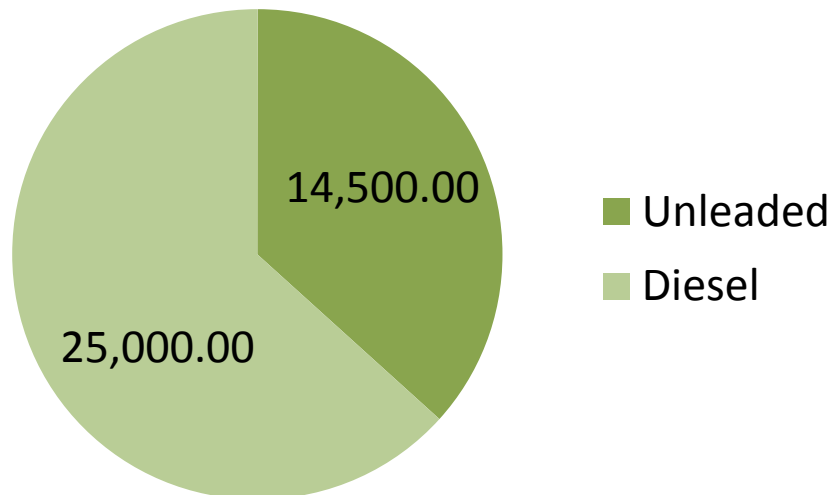
Hybrid Drive
(under floor)



Anti-idling Policy

- 200 fleet vehicles
- 400,000 gallons
- \$100,000 savings
- GPS monitoring

Anti-idling Savings



GREEN TIPS

February 2012



CLEANER AIR WHILE USING LESS RESOURCES



Did you know our City fleet uses about 400,000 gallons of fuel costing us roughly \$1 million annually? Vehicles idling unnecessarily waste fuel and taxpayer money, while polluting the air we breathe.

- An idling vehicle gets the worst gas mileage possible – 0 mpg.
- An hour of automobile idling burns approximately 1/5 of a gallon of gas.
- An idling car does not perform at full capacity, which can lead to expensive repairs such as oil build-up on cylinders, corrosion by excessive condensation, and decreased peak engine performance.
- A vehicle idling needlessly releases nitrogen oxides, volatile organic compounds (VOCs), particulate matter, carbon monoxide, and carbon dioxide pollutants into the air.
- These pollutants can contribute to respiratory troubles such as difficulty breathing, decreased lung function and illnesses such as asthma and chronic bronchitis. Certain VOCs can even cause cancer.
- Idling adds extra emissions that contribute to smog, acid rain, and climate change.

Last year the City passed a policy that prohibits unnecessary idling of motor vehicles. It is estimated the City will save \$100,000 annually by reducing excess idling. Idling within reason is understandable (especially in cold weather conditions) but be sure to learn what our policy covers on the City's intranet.



“If the grass is greener on the other side of the fence, you can bet the water bill is higher.” ~ Author Unknown

Green Tips is brought to you monthly by the City of Eau Claire's Green Team



Green Up Your Life

Overall Strategies

Get the biggest bang by doing these things...

- 10 Simple Things You Can Do
- Be a Part of a Local Eco Team
- Climate Change - EPA's What You Can Do

Energy Efficiency Help

From home weatherization projects to which bus route to take, check out these links...

- Eau Claire Transit
- Energy Savings Projects
- Xcel Energy Solutions
- Focus on Energy Rebates
- Renewable Energy Tax Credits
- Xcel Energy WindSource Program

Recycling & Waste Reduction Help

Know what can be recycled locally and how you can decrease the amount of waste you generate...

- Eau Claire County Recycling
- Recycling 101
- EPA's Waste Resources Page



Green Building Help

Make your building healthier and more environmentally friendly...

- Wisconsin Green Built
- U.S. Green Building Council/LEED

Local Food Help

Support our local food economy and reduce the miles a meal travels...

- Downtown Farmer's Market
- Gardening Resources
- Urban Horticulture
- Sustainable Table
- West Wisconsin Farmers Atlas

Water Quality Help

Improve water quality by constructing a rain garden or by using rain barrels...

- Wisconsin DNR's Runoff Home Page
- EPA's Office of Water



www.eauclairewi.gov/green

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