

The Milwaukee Green Team's Report to Mayor Tom Barrett

October 2005



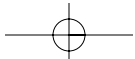
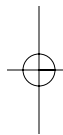
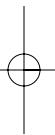
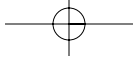
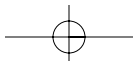
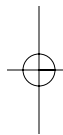
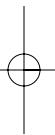
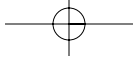


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Executive Summary

Purpose

Just as a healthy body is essential to a productive worker, the health of our environment is essential to Milwaukee's economy and quality of life. Milwaukee has already paid a steep price for poor environmental practices in the past. Poor waste management has led to blight and costly brownfield clean-up. Development that did not respect natural watersheds has led to reliance upon enormously expensive sewers to control stormwater. In the future, a failure to develop a coherent sustainable energy policy could cause Milwaukee great economic hardship. But the future need not be bleak. By understanding the linkages of environmental systems to the economy and human health, Milwaukee can chart a course toward long-term sustainability and a booming economy.

Green Team Structure

In April 2005, Mayor Barrett brought together a group of over 80 Milwaukeeans to map the future course of Milwaukee's efforts to be "green." This diverse group included representatives from City government, non-profit organizations, utilities, local universities and a variety of businesses: banking, architecture, construction, manufacturing and real estate developers. These team members were divided into a Steering Committee and three work teams: City Government Team, Public/Private Sector Interface Team and Private Sector team. The Green Team meetings sparked a remarkable level of participation and enthusiasm. The teams generated a comprehensive list of ideas for future initiatives for the City ranging from free parking for hybrid cars to creating a "green triangle" of relationships among Milwaukee, Chicago and Madison that would make the region a national leader in the emerging green economy.

Key Objectives

Mayor Barrett challenged the Green Team to develop strategies for Milwaukee in the following areas:

- **Stormwater Reduction and Management:** Following Milwaukee Metropolitan Sewerage District (MMSD) overflow events in May 2004, Mayor Barrett commissioned an audit of MMSD. The audit found that many different factors contributed to the overflows and that there is no "silver bullet" to solving the problem. Rather, the region needs a range of strategies to more effectively manage stormwater and reduce the risk of future overflows.
- **Smart Energy Policy:** With rapidly rising energy costs, human health issues and global climate change related to our energy choices, the Mayor commissioned the Green Team to explore ways to improve energy efficiency; promote energy conservation; and examine the use of renewable and clean alternative fuels.
- **Stimulate Job Creation and a Green Economy:** Mayor Barrett recognizes that environmental standards and economic goals can be coordinated to improve the lives of Milwaukeeans. The Green Team thus looked for ways to improve the local economy for the long term within a framework of environmental performance.

Strategies for Success

Three keys to success emerged from the dozens of recommendations by the Green Team:

- **Market a Coherent Green Message:** Without an overarching message to the public, the Green Team initiatives will lack civic meaning, have less support and not generate the recognition Milwaukee deserves.
- **Create an Office of Sustainability in City Government:** This office is critical to coordinate the implementation of policy initiatives, conduct green marketing, foster an on-going network of environmental professionals that can act as a resource for the city and help transform city culture to one that embraces environmental strategies as a key to our future well-being. The Office will be self-funded by leveraging grants, private sector support and cost savings from green initiatives to demonstrate that green programs are an investment that improves the City's bottom line.
- **Adopt Green Team Recommendations:** City policy makers including the Mayor, Common Council and the Business Community should debate and ultimately support the policy recommendations in the areas of stormwater management, energy policy and green economic development contained in this document. The Green Team's recommendations are forward looking, yet practical strategies to put the City on a path to a strong economy, sustainable environment and a healthy and productive citizenry.

Mayor Barrett's Appointees to the Milwaukee Green Team Steering Committee:

Preston Cole	City of Milwaukee
Carla Cross	Cross Development Group Inc.
Lincoln Fowler	Alterra Coffee Roasters
Bob Greenstreet, Co-Chair	City of Milwaukee
Ashanti Hamilton	City of Milwaukee Common Council
Peter McAvoy, Co-Chair	Sixteenth Street Community Health Center
Sally Peltz	Legacy Redevelopment Corp.
Jim Rowen	Citizen Activist
Julia Taylor	Greater Milwaukee Committee
Lynde Uihlein	The Brico Fund
Jim Wasley	University of WI-Milwaukee

Committee Staffers:

Kimberly Kujoth	City of Milwaukee
Carolynn Leaman	City of Milwaukee
Erick Shambarger	City of Milwaukee

Introduction

Milwaukee needs Green and Green fits Milwaukee -- now more than ever.

That is why Milwaukee Mayor Tom Barrett created a citizen Green Team and why its steering committee and working groups made up of dozens of public sector, private sector and citizen-activist members now enthusiastically present Mayor Barrett with a plan -- a plan that works.

"Green" is a comprehensive vision that says our economy, health and quality of life can be sustained and bettered immediately and for the long-term by working with nature not against it.

This basic insight and strategy recognizes the interdependence of Milwaukee's economy and environment. By applying solutions that respect and enhance this relationship, the city can save taxpayer money, help foster a thriving community and enjoy a dynamic economy.

Green can help Milwaukee build on its appealing parks, lakefront and river legacies. Green can also take advantage of Milwaukee's continuing "wet" industrial infrastructure to lead the city to Green-driven prosperity and environmental stewardship.

The goal of this self-conscious and strategic approach is to elevate Green to the same level of importance in City of Milwaukee action and planning as other traditional, core municipal values -- public money management, neighborhood improvement, employer success, family satisfaction and civil liberties' preservation.

Failing to adopt a strong Green ethic as an integral part of city operations and declining to set a strong, cooperative Green example for citizens, private interests and other units of government would regrettably and needlessly degrade those core Milwaukee civic values. It would obstruct the brighter future that is expected by Milwaukee residents, sought by public and private sector leaders and required for Milwaukee's continuing and necessary integration into the state, regional and national economies.

Failing to grasp and implement Green across-the-board would be more than a mere missed opportunity, it would be cascading failure. As with all of Milwaukee's goals, success is more than the desired outcome -- it is the only option and the Green Team's thorough-going motivation.

Success is the Green Team's motivation and expectation and the members are committed to helping explain, promote and initiate its recommendations.

Green is anything but a buzzword or a fad. It is a coherent and intelligent method to deal with the issues that dominate today's news: the need for job growth, escalating fuel prices, the scarcity of non-renewable resources, stresses on area water supplies and combating the negative effects of climate change.

Green is the sustainable way to meet these goals and to improve the quality of city life. Green is both a philosophy and a productive, cross cutting blueprint for cooperation between the public and private sectors, employers and workers, Milwaukee residents and their suburban neighbors.

Consider the business and employment potential in Green architecture and construction innovation; consider the tax savings and environmental benefits available in stormwater management improvements; consider the health care system cost savings experienced with cleaner air and safer drinking water.

All these benefits and more can be a reality for Milwaukee and its neighbors if public sector action and private sector innovation is predicated on a coordinated and positive Green approach.

Note on the Organization of Green Team Recommendations

As noted in the Executive Summary, the Green Team consisted of a Steering Committee and three work teams:

- **Steering Committee:** Tasked with charting the course of the Green Team and coordinating the work teams.
- **City Team:** Examined ways City government can improve environmental performance in its own operations.
- **Interface Team:** Examined ways the City can encourage green practices in the private sector through incentives and education.
- **Private Team:** Examined ways private industry can lead in environmental stewardship that makes sense for the bottom line.

These three teams all produced recommendations to address the Mayor's three core objectives: Stormwater Management, Smart Energy Policy and Green Job Creation. This paper is organized according to the three core objectives and a fourth section that addresses "Cross Cutting" recommendations that impact multiple core objectives or other environmental goals. The three teams contributed to each of the sections.

Additionally, Green Team groups were asked to divide their recommendations into short-term goals and mid- to long-term goals. In this document, short-term goals are symbolized by **Q.W.** to denote a "Quick Win." A Quick Win is a recommendation that would cost the city little or no money and could be implemented very quickly to demonstrate the Administration's commitment to Green.

Objective 1: Reduce Stormwater Runoff

Background

According to the Wisconsin Department of Natural Resources, stormwater runoff is the principal cause of water pollution and degraded water quality in the state. With the vast amount of impervious surfaces such as roof tops, roadways and parking lots that impede water infiltration, urban areas are leading sources of stormwater runoff. Stormwater runoff often contains contaminants such as oil, grease, gasoline, diesel fuel and sediments that can end up in Milwaukee waterways and ultimately in Lake Michigan. Stormwater runoff poses the greatest risk to water quality during strong wet weather events and extended periods of rain. As was the case in May 2004, the wettest May in 110 years, Milwaukee experienced 8.9 inches of rain that generated 14.5 billion gallons of stormwater and wastewater to enter the MMSD's regional sewer system. This overloaded the system's capacity and led to multiple flooding problems, separate sewer overflows (SSOs) and combined sewer overflows (CSOs). In total, 1.565 billion gallons of rain and wastewater were released into Milwaukee area waterways. Such actions threaten Milwaukee's human and environmental health.

Concerned over the number of CSO events that occurred in May 2004, Mayor Tom Barrett commissioned the MMSD Audit Committee to evaluate the adequacy of the sewer system and its management during this period as well as other periods of wet weather. Among other factors, the independent audit concluded that too much stormwater enters the Milwaukee combined sewer system during major storm events which overwhelms MMSD treatment facilities and causes an unacceptable level of overflows. As a result, Milwaukee experiences sewer backups in home basements and the release of untreated or partially treated sewage into Milwaukee rivers, lakes and streams.

The problem of stormwater runoff and CSOs is not limited to Milwaukee. The US Environmental Protection Agency (EPA) Region 5 comprised of Minnesota, Wisconsin, Illinois, Indiana, Michigan and Ohio, holds the dubious distinction of leader with 41% of the nation's sewer overflows. Given the extent of the problem, EPA has identified the reduction of CSOs and SSOs as the top priority for Region 5 Water Division.

The impact of stormwater runoff lies in excessive runoff quantity and degraded water quality. Stormwater runoff is affected by the amount of impervious surfaces that reduce the opportunity for natural absorption and groundwater recharge. Increased volumes and rates can also lead to increased occurrences of CSOs. However, the combined sewer area is not the only culprit for reduced water quality. Non-point source pollution in separated sewer areas occurs every time it rains and impacts area waterways even in small runoff events.

Green management recognizes stormwater as a resource, not just a problem. Stormwater can be used to conserve valuable water resources in applications such as grey water and landscaping. The recycling of stormwater for use on-site and the reduction of runoff is less costly than traditional stormwater management methods.

Stormwater management and clean water are regional challenges requiring all communities to share and participate in the solution. The audit calls for contributing communities to reduce excess flows into the regional sewer system. In response to this call, the Green Team makes the following recommendations to more effectively manage stormwater in the City of Milwaukee.

Stormwater Management Recommendations

1. Issue an Executive Order from Mayor Barrett to reduce contributions to the sewer system from city property by 15% using downspout disconnection, rain barrels, bioswales, green roofs, etc. by 2012

Mayor Barrett can demonstrate the City's commitment to the on-site management of stormwater by providing leadership through a call to increase the use of stormwater best management practices (BMPs) such as rain barrels, rain gardens, bioswales and green roofs. City projects need to be showcased that achieve on-site stormwater management to demonstrate their feasibility for the private sector. Such showcases could include:

- Green city parking lots that use stormwater BMPs
- Lloyd Street School bioretention demonstration project with school stormwater curriculum
- Green roof on Highland Gardens public housing facility

Accountability: Mayor's Office
Recommended Timeline: 2005-2012



Figure 1: Highland Gardens Green Roof

2. Implement a Stormwater Fee based on impervious surface and a public education campaign to encourage and provide an incentive for smart stormwater management

MMSD overflow events occur when the amount of stormwater that must be treated overwhelms the capacity of the District's treatment facilities. The amount of stormwater that enters the city's sewers is a function of the amount of impervious surface on properties in Milwaukee. Capturing rainfall where it occurs, promoting infiltration and reducing the amount of impervious surfaces in the city will reduce the risk of MMSD overflows. In 2006, the City should implement a stormwater fee based on the amount of impervious surface on each property. This fee will help pay for maintenance on the city's sewer system and allow the city to reduce the existing sewer maintenance fee on sanitary sewerage. More importantly, it will provide credit adjustments for commercial property owners who reduce the city's sewer costs by managing their stormwater on-site through green roofs, rain gardens and other bioretention features.

Accountability: Dept of Administration-Budget Office &
Dept of Public Works Sewer Fund
Recommended Timeline: 2006

3. Develop design guidelines to direct the creation of a coherent network of greenways and other public open spaces in redevelopment proposals

As the City works to implement stormwater fees to direct private development towards smart stormwater management, we also need to provide a comprehensive physical planning framework to insure that individual investments in green infrastructure work together to the greatest effect. While the major river corridors of Milwaukee provide compelling examples of the ecological, social and economic benefit of greenway development, these are only the main branches of the tree representing our watershed. Continuous greenways and coherently planned open spaces can also play a significant role in orchestrating stormwater solutions on a smaller scale including the organization of individual development projects.

Accountability: MMSD, Dept of City Development & DPW
Recommended Timeline: 2006-2010

4. Identify and prioritize investments in stormwater improvements

Use GIS mapping tools and work with MMSD to identify the key parcels which if improved would make the greatest contribution to water quality. Similarly, identify the top permitted dischargers in the City and encourage them to sign on to a Green Tier Charter to voluntarily and meaningfully reduce discharges. Uncooperative and/or critically located dischargers might receive enhanced enforcement.

Accountability: Office of Sustainability,
DPW Infrastructure – Environmental
Section & MMSD
Recommended Timeline: 2006-2008

5. Increase city's tree canopy by increasing the number of trees planted on city right-of-way and encouraging plantings on private property

There is growing recognition that the urban forest which extends beyond the public right-of-way onto private property, open spaces and other natural areas is of great importance to the economic and social well-being of a city and its residents. A healthy tree canopy can abate flooding and stormwater problems by promoting infiltration and groundwater recharge. According to a study conducted by American Forests, the tree canopy cover of the City of Milwaukee is estimated at 16%. This existing canopy reduces stormwater flow by up to 22% and provides an estimated \$15.4 million in benefits. To maximize the benefit of the urban forest, the city's canopy needs to be increased to 30-40%. The greatest opportunity for increased tree canopy is on private property and open spaces. An increase in tree canopy by 20% would provide significant economic and environmental benefits.

Acknowledging the importance of the urban forest, the City of Milwaukee was cited in the September 15, 2005 Editorial Section of the Philadelphia Daily News for excellence in urban forestry management. Specifically, the City was commended for tree management noting the \$19 per capita spent on tree management and trees grown in the city nursery as compared to the \$3.79 per capita spent in Philadelphia.

Accountability: DPW – Environmental Services
Recommended Timeline: 2006-2007

6. Develop a strategy to incorporate the use of native plantings in city boulevards and public green infrastructure Q.W.

As the city improves boulevards through a strategic plan, the city should consider the use of native plantings versus strictly ornamental species. Native plantings have the benefit of longer root systems that allow for greater water absorption and provide drought resistance. In addition, native plants require less maintenance than traditional annuals and ornamental plant species.

Accountability: DPW – Environmental Services
Recommended Timeline: 2005-2006

Stormwater Case Study: Miller Brewing Company Green Parking Lot



In partnership with Miller Brewing Company and MMSD, TEI Corporation completed the construction of a Rain Garden and Bioretention Swale (bioswale) as part of a green parking lot project in September 2004. The project was designed and constructed to:

- Enhance the quality of stormwater from a Miller Brewing Company parking lot
- Provide peak stormwater flow reduction
- Advance research on the use of rain gardens and bioswales in northern climates
- Educate the public on the causes of and potential solutions for water quality degradation in the Milwaukee area

The green parking lot is located at the northeast corner of 46th and State Streets in the City of Milwaukee. The rain garden with bioswale extends approximately 185 ft. in length and 40 ft. in width. The project consists of two stormwater BMPs that function in series. A 20 ft. wide filter strip pre-treats overland runoff as it discharges from the parking lot. A second 8 ft. wide filter bed provides full stormwater treatment and detention. Together, the facilities capture, slow and treat overland runoff from the industrial parking lot and storage yard that used to drain directly to the combined sewer system. The project has a storage capacity of approximately 31,000 gallons below the overflow grate which is sufficient to fully capture a 1.3 inch rainfall.

Monitoring was conducted in Summer 2005. The project retained all stormwater runoff inflow with no discharge of any water or pollutants. All inflow percolated to the groundwater, evaporated or was taken up by the extensive prairie vegetation.

7. Develop public education materials on stormwater BMPs for residential use

The degree of water quality desired by the public will require the full participation of MMSD, communities such as the City of Milwaukee, private developers and commercial and residential property owners alike. Residents play an integral role in the solution. Residents can do simple things that can reduce stormwater runoff as well as promote water conservation. Education materials should illustrate simple actions such as downspout disconnection, residential rain gardens, rain barrels and the use of native plantings to increase water detention and slow peak stormwater flows.



Figure 2: Residential Rain Barrels

In order to ensure proper installation and address basement flooding concerns, a network of experts should speak to individual residents and neighborhood associations. Such a network of technical expertise will improve public understanding and increase residential “ownership” of both the problem and the solution.

Accountability: Office of Sustainability, DPW & MMSD
Recommended Timeline: 2006-2007

8. The City should request that MMSD fund and distribute washing machine magnets that read, “Postpone your laundry when it’s raining” to reduce the risk of sewer overflows

Through its “Every Drop Counts” Program, MMSD encourages residents to reduce residential water consumption. Conserving water is especially important during rain events as the District has to treat stormwater in addition to sanitary sewerage. One method of conserving water during this critical time is to postpone laundry. Conventional washing machines can use up to 40 gallons of water per wash load. This water is released into the combined sewer and requires treatment. This recommendation encourages MMSD to purchase and distribute washing machine magnets that would remind residents to postpone laundry during rain events.

Accountability: Office of Sustainability and MMSD
Recommended Timeline: 2006-2007

9. Adopt the water conservation goals contained in the proposed Annex to the Great Lakes Charter Agreement reinforcing the City’s position as stated in Resolution # 040646

The City of Milwaukee must be a leader in focusing attention on the health and vitality of the Great Lakes basin as a whole. Milwaukee should promote best management practices for water usage by both residents and within city operations as a matter of coherent and assertive public policy.

The City of Milwaukee should urge the drafters of the US-Canadian Great Lakes agreement to strengthen the water conservation standards and measurement features that lead to economic savings, protect water quality and encourage smart development. This smart development takes advantage of existing infrastructure in already developed or urbanized areas, thereby reducing sprawl, loss of open space and farm land with pervious surface. To that end, the City should encourage the drafters to remove the “straddling counties” language contained in the revised annex agreement.

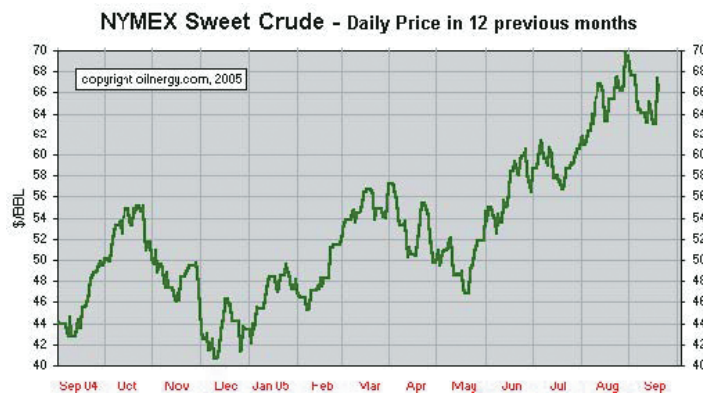
Accountability: Office of Sustainability, Mayor’s Office &
DOA - Intergovernmental Relations
Recommended Timeline: 2005-2007

Objective 2: Develop Smart Energy Policies

Background

Milwaukee's economic future will be determined in large part by its energy choices. Economic growth requires additional energy. Most energy is currently obtained by the combustion of non-renewable fossil fuels (petroleum, natural gas and coal). Petroleum-derived fuels power transportation while coal and natural gas provide electricity and heat for home and industry. Because domestic production of both oil and gas is in decline, we are increasingly dependent on imports and more vulnerable to events beyond our control. This vulnerability was made clear as Hurricane Katrina sent the prices of oil and natural gas skyrocketing. Although we have an ample domestic supply of coal, the costs of transportation and mitigation of environmental impacts are rising. Fossil fuels will continue to increase in price as new demand outpaces the growth of conventional supplies. Because forecasts of energy supply and demand are fraught with uncertainty, diversification of energy resources is smart policy.

Demand for electricity reached a record high in Wisconsin last year and is growing at 2.5% per year. According to the Wisconsin Public Service Commission (Energy 2010), this increase will require a major new power plant every two years. Wisconsin is an energy island that lacks fossil fuels and is a net importer of energy. Following recommendations from the Task Force on Energy Efficiency and Renewables, Governor Jim Doyle's recent Conserve Wisconsin initiative announced an energy target of 10% from renewable sources by 2015. State government aims to lead the way by purchasing 10% of its power from renewable sources by 2006 and 20% by 2010.



Rising energy prices will increase the costs of living and doing business in Milwaukee. The cost of energy used by the City of Milwaukee for municipal services in 2006 is projected to increase by \$2.7 million. This places pressure on city officials to raise taxes or find new energy solutions. Although energy prices are beyond our control, we can take steps locally to reduce negative economic impacts by making wise choices and adopting smart energy policies.

In addition to the economic risks posed by increasing energy prices, continued reliance upon fossil fuels has costly medical and ecological consequences. The combustion of hydrocarbons introduces gaseous and particulate pollutants into our environment: vehicle exhaust contributes to photochemical smog and ground-level ozone that exacerbate human respiratory disease -- this summer the DNR issued an unprecedented number of air quality health advisories for southeast Wisconsin; mercury emissions from power plants pollute water resources and can cause brain damage; and carbon dioxide plus other heat-absorbing gases enhance the greenhouse effect and accelerate climate change (global warming).

According to Scorecard.org, Milwaukee County is among the dirtiest 10% of counties in the country for ozone-forming compounds in the air. Milwaukee must do much better. The time has come for Milwaukee to plan its use of energy strategically to assure the city economic and environmental sustainability and make it more attractive for positive economic development. A smart energy strategy comprises energy efficiency, energy conservation and renewable energy resources.

Energy Efficiency refers to all practices that save energy by utilizing it more efficiently -- getting more output per unit of energy input. Energy efficiency can be increased wherever energy is used: principally in buildings, industrial processes, power generation and transportation. For example, energy for temperature management is more efficiently used in a well designed and well insulated building. A LED traffic light provides as much or more light as a conventional bulb using a quarter of the energy.

Energy Conservation refers to all practices that save energy by reducing energy waste. Recommended practices include narrowing thermostat range (higher lows and lower highs), turning off lights and computers and reducing decorative lighting.

Renewable Energy Resources are sources of energy that are unlimited and/or rapidly replenished by natural processes including: solar (electric and heating), wind, biogas and biomass, geothermal, hydrogen and hydropower. Wisconsin is a net importer of energy, shifting at least \$9 billion out of the State annually. By contrast, in-state renewable energy production keeps dollars in Wisconsin that can boost the regional economy.

Smart Energy Policy Recommendations

1. Issue Executive Order from Mayor Barrett to reduce energy consumption within city operations by 15% or more by the year 2012 *Q.W.*

Charting a smart energy future for Milwaukee will require executive leadership and goals that are both challenging and attainable. The core of a smart energy program is to reduce energy consumption by city departments. This can be accomplished through a combination of energy efficiency and energy conservation initiatives. This quantitative goal can be pursued through many of the recommendations that follow.

Accountability: Mayor's Office
Recommended Timeline: 2005

2. Develop and establish energy policies and performance measures for all city departments and Milwaukee Public Schools

To achieve the citywide goals of reduced energy consumption outlined in Recommendation 1, the Office of Sustainability should work with city department heads to identify appropriate energy reduction goals and strategies. Key departments that will need energy reduction goals include DPW, Milwaukee Fire Department, Milwaukee Police Department, Milwaukee Public Libraries, Port of Milwaukee, Housing Authority of the City of Milwaukee and MPS. Strategies for energy reduction may be a combination of citywide strategies and department specific strategies. An example of a citywide strategy is a policy requiring the purchase of Energy Star appliances by all city departments. Departments may also tailor strategies that are compatible with their core mission. Examples include alternative use of vehicles in the Fire & Police departments.

Accountability: Office of Sustainability & Departments
Recommended Timeline: 2006

3. Implement performance contracting – energy upgrades of city buildings paid through energy efficiency

Wisconsin state statute 66.0133(9) allows municipal governments to finance energy saving projects through performance contracting. In a performance contract, a city department would contract with an Energy Service Company (ESCO) to identify and implement guaranteed energy saving strategies. The ESCO receives no up front payment for its services. Rather, the ESCO is paid by recouping the energy savings from their improvements. The city thus saves energy with no up front capital costs.

Accountability: Office of Sustainability & Departments
Recommended Timeline: Pilot DPW in 2006

4. Purchase renewable energy blocks for City Hall *Q.W.*

Unlike conventional fuels such as coal and natural gas, renewable energy is produced from resources that can be replenished over time. In addition, emissions from renewable energy are less harmful to the environment unlike particulate matter and carbon dioxide that are created from the burning of fossil fuels. In Wisconsin, the most economic source of renewable energy is wind power. Renewable energy sources have lower price volatility than conventional fuel sources. While renewable energy currently costs a premium over conventional energy, the price gap will narrow over time as conventional fuels become scarcer. Renewable energy can be purchased from We Energies in “blocks” that represent a portion of the customers total electricity usage.



Figure 3: We Energies Wind Turbines

City policy should support the expansion of clean renewable power to improve the environment of the region, reduce long-term economic exposure to rising energy prices and help change the outdated impression that Milwaukee is a dirty industrial city. The further expansion of renewable energy sources will occur as demand expands and customers demonstrate a willingness to pay for it. City officials should encourage the expansion of renewable power in the region through direct discussions with WE Energies and by encouraging businesses and residents to purchase a portion of their energy from renewable sources.

The City should lead by example in this effort. The City can make the City Hall Complex a symbol of environmental stewardship by purchasing renewable energy blocks. The City could begin by buying 6% of City Hall's electricity from renewable sources. This could be done for a premium as low as \$8,986 in 2006. In return, City Hall would receive EPA recognition as a green leader.

In the long run the City should expand its use of renewable energy sources to all city operations. If the City could eventually buy approximately 16% of its electricity from renewable sources (excluding the Police Department for which baseline energy data is currently unavailable) it could become one of the nation's top 25 users of renewable energy, giving Milwaukee invaluable national recognition.

Accountability: DPW - Buildings & Fleet
Recommended Timeline: 2006 with announcement in 2005

5. Pilot LEED™ certification for city buildings *Q.W.*

To further stimulate an emerging market for green “high-performance” buildings, the City should take a leadership role by improving the environmental performance of its existing and new buildings. In order to receive recognition for the environmental performance of its buildings, the City should seek to get LEED™ (Leadership in Energy & Environmental Design) certification from the U.S. Green Building Council (USGBC) for some of its high-profile public buildings.

According to the USGBC, LEED™ was created to:

- Define "green building" by establishing a common standard of measurement
- Promote integrated, whole-building design practices
- Recognize environmental leadership in the building industry
- Raise consumer awareness of green building benefits
- Transform the building market

Smart Energy Case Study: Johnson Controls Brenzel Technology Center



Since 1900, Johnson Controls (JCI) has made Milwaukee a leader in energy technologies. The firm's Brenzel Technology Center exemplifies the future of green buildings in the city - a high performance building that is environmentally friendly, cost-effective and comfortable for inhabitants.

JCI and Zimmerman Design Group collaborated to create a flexible working environment that showcases JCI's products. The design team accomplished their goals within the market average cost of similar projects using conventional construction. The Brenzel Center was rewarded for its environmental performance by the USGBC with a LEED™ Silver rating in 2000. It was re-certified as Gold in 2004 under the USGBC's new LEED™ for Existing Buildings program.

The Brenzel Technology Center provides desktop climate control systems that give each employee the ability to adjust the temperature, air flow, lighting and background noise in his workspace. To conserve energy, the systems shut themselves off if an area has been vacant for more than fifteen minutes. In addition, a building automation system increases the efficiency of the building's mechanical and electrical systems and monitors indoor air quality. The Center also uses natural light from high-performance, low E coated glass that reduces glare. Using more natural light results in lower HVAC usage, a 10% reduction in the energy used for lighting and a more pleasant workspace. Through energy efficiency and conservation initiatives, JCI is able to save approximately \$30,000/year in energy costs.

The building site was chosen with regard to its effects on the environment and its employees. The Brenzel Technology Center was sited close to existing bus lines and equipped with showers for its employees who wish to cycle or walk to work. The Center also includes an open courtyard that provides green space for its employees.

The Brenzel Technology Center sets the standard for a green future that deserves to be followed.

With the success of LEED™ in high-profile buildings, the City could adopt a policy to include LEED™ requirements in all city building projects over \$3 million. In the past, City officials have been reluctant to seek this certification as the certification process itself was originally cumbersome. However, Johnson Controls has recently improved the ease of the certification process through a new computer program called LEED-Speed™. The City could seek certification rather quickly and help publicize an innovative green product from a leading local company.

Accountability: Office of Sustainability,
Library & DPW

Recommended Timeline: Pilot in 2006-2007

6. Explore purchasing alternative fuel and hybrid vehicles for the city's passenger fleet and encourage the use of biofuels such as ethanol and biodiesel

The City should explore the feasibility of purchasing and operating passenger alternative fuel vehicles that run on renewable and clean biofuels such as ethanol or biodiesel. Biofuels are derived from non-fossilized biomass such as corn by-products. By using biofuels, the City can move toward the national goal of energy independence as advanced by the Apollo Project while reducing fossil fuel carbon emissions that contribute to global warming.

Accountability: Office of Sustainability
& DPW-Buildings & Fleet

Recommended Timeline: 2007-2008

7. Support balanced transportation systems including mass transit, car pooling and commuter lanes, interconnected bicycle lanes and pedestrian friendly infrastructure

In addition to exploring the use of alternative fuels, the city should continue strategies that allow citizens to make smart transportation choices. These policies all share the common goal of reducing citizen's reliance upon the single-occupant automobile as the primary method of transportation. Along these lines, the city should:

- a. *Promote the use of mass transit:* The city can support mass transit through the design of its local road infrastructure. For a mass transit system to be successful, the routes must be easily accessible, fast and frequent. City roads can be designed to allow

specialty lanes for mass transit vehicles and bus stops can be retrofitted to allow greater efficiency in loading and unloading. Additionally, city officials can use the bully pulpit to encourage the County to fully fund the Milwaukee County Transit System and encourage ridership.

- b. *Interconnected bicycle lanes:* The City should continue its efforts to add bicycle lanes to city streets and create a fully integrated bicycle lane network. Additionally, businesses should be encouraged to provide bicycle racks on their property and locker rooms for employees to shower and change cloths after their bike commute to work. In high traffic areas, the city may even consider dividing bike lanes from auto traffic lanes using small medians.
- c. *Provide pedestrian friendly neighborhoods and business districts:* The city should continue to follow the tenants of New Urbanism in its development plans. This includes mixed-use developments that allow people to live near where they shop, play and work. Additionally, DCD officials should create a comprehensive plan that either places large cultural amenities in close proximity or creates a method for tourists to easily get from one attraction to the next without relying on automobiles.

Accountability: DCD & DPW Infrastructure Services
Recommended Timeline: On-going

8. Offer free street parking for high mileage hybrid and alternative fuel vehicles Q.W.

Hybrid vehicles use both an electric battery and conventional gasoline to achieve superior fuel economy. Some hybrids can increase fuel economy by 67% compared to conventionally fueled vehicles. This increased fuel efficiency benefits the driver in lower fuel costs and the community through fewer harmful tailpipe emissions.

The city could encourage further use of high mileage hybrid and alternative fuel vehicles by providing free street parking for qualifying vehicles. Such vehicles would have to demonstrate public benefits such as significantly reduced greenhouse gas emissions per mile traveled. Such a program could be administered through the existing City parking permit programs. A green parking permit to distinguish 'environmental leaders' could provide a way to market the City's commitment as well as to provide visible recognition to individual citizens.

Accountability: DPW Parking
Recommended Timeline: 2006

9. Explore adoption of a Climate Protection Plan for the City of Milwaukee with city specific benchmarks

Global warming (or global climate change) is the process of the earth's average temperature rising as a result of human activity. Greenhouse gases (e.g. carbon dioxide and methane) are released when humans burn fossil fuels. These greenhouse gases trap heat in the atmosphere. Possible outcomes of this warming are rising ocean levels, more violent storms and changing lake levels. These weather effects could have a devastating impact on the global population, food production and the world economy.

In 1997, the United States signed but did not ratify the Kyoto Protocol. The Kyoto Protocol is a United Nations call for developed countries to cut greenhouse gas emissions by 7 percent below 1990 levels by the year 2012. In 2001, the Bush administration openly pulled its support from the agreement.

In the absence of national leadership to address global warming, many cities have taken the initiative to adopt local Kyoto standards through the "US Mayors Climate Protection Agreement." Led by Seattle Mayor Greg Nichols, 187 cities have said they will voluntarily comply with the Kyoto Protocol. Portland reports that it has already cut greenhouse gas emissions below 1990 levels and that these reductions have produced economic benefits for the city.

Adopting a climate protection plan would demonstrate that Milwaukee is a responsible partner in the regional and global economies. Milwaukee can craft a local climate protection plan that fits the city's needs in a reasonable timeframe and be distinct from the original treaty to avoid the problems of the Kyoto Protocol.

Accountability: Office of Sustainability & Common Council
Recommended Timeline: 2006

**10. Work with We Energies and trade allies to identify energy saving opportunities in City Hall Complex **

As part of its Power the Future campaign, We Energies is committed to helping local businesses find energy saving opportunities in addition to adding new electricity supplies to the region. As part of the collaborative Green Team effort, We Energies and Franklin Energy with DPW officials have begun an energy use analysis of the City Hall Complex. This energy use analysis will seek to identify energy solutions that represent "low-hanging fruit" or simple and cost-effective approaches to save energy.

Accountability: DPW- Buildings & Fleet
Recommended Timeline: 2005

Objective 3: Stimulate a Green Economy in Milwaukee

Background

It is a commonly held perception that economic growth and environmental protection are opposing objectives. However, Milwaukee is home to companies that are at the forefront in understanding how economic growth and environmental performance are connected. An opportunity exists for Milwaukee's civic leaders to understand and promote this connection between the economy and environmental performance and to realize job growth benefits as a result. A key to understanding the market opportunities is to understand the concept of sustainability as something beyond environmental protection. Sustainability has as much to do with achieving well-being for people as it does for preventing environmental destruction.

In this regard, sustainability acts as a driver of technological change, similar to other market forces. Companies and governments that adapt to the changing set of realities remain competitive and prosperous, those that do not or can not are forced to withdraw from the market.

This view of sustainability is one where new markets, products and services are created as a result of social and environmental forces linked to sustainability issues. Worldwide, the market for environmental goods and services hit \$600 billion in 2004 according to Environmental Business News. Some segments, such as renewable energy power systems are expanding at double-digit rates in Europe and China.

Area businesses that innovate in "Sustainability-Driven" ways benefit from:

- Identification of new, untapped business and market opportunities
- Greater focus on longer-term emerging customer needs to avoid creeping obsolescence
- Migration into business areas that have greater longevity and the ability to create a genuine "win-win" for both business and society

Branding

Identifying with environmentally-conscious themes has application to both business and civic branding. Branding is the process of getting the public to associate a company or city with a set of positive images or feelings. Companies such as Alterra Coffee Roasters are pegging their brands to programs that help aid the Earth's natural resources and using that hook as a means to bolster sales. Moreover, people want to live in places that are environmentally progressive which is reflected in consumer choice and marketing trends. The Milwaukee "brand" should portray the city as a clean and innovative place to live and conduct business.

Green Collar Jobs

The city should seek to create "green collar jobs." These are jobs in the emerging market for green technologies and services. The community and economic benefits of green collar job training and job placement are many:

- Provide employment opportunities to underserved urban populations
- Build clean and green communities and prioritize the need for green collar jobs in urban centers
- Teach fundamental, marketable skills in an interactive, hands-on, inquiry-based manner that is grounded in green technology
- Nurture confidence, social skills and a healthy respect for environmental stewardship
- Support businesses in improving products and services through customized horticultural enhancements and cost-saving techniques
- Assist green job placement through partnerships with local businesses, regional green employers and employment services agencies
- Form viable partnerships with job-readiness, job placement, youth opportunity, project empowerment and other workforce development programs
- Supply needed services to local sites utilizing training courses

Cities and Corporations share an Executive Challenge

There are clear parallels between CEO leadership in private business and civic leadership and the connection between these is important for job creation.

Cities are like companies with respect to improving environmental performance. The ones that succeed have leaders with a clear vision and a demonstrated commitment to both innovation and sustainability. Leadership, commitment and engagement are essential to environmental progress.

Green Economy Recommendations

1. Inventory existing green technology/services/market within the City of Milwaukee Q.W.

In order to track the City's progress in developing a green economy, the City should work to identify the current inventory of green businesses in Milwaukee, the region and the nation. By understanding what is currently here, the City can work to develop industrial "clusters" within particular market niches.

Accountability: Office of Sustainability, Metropolitan Milwaukee Area
of Commerce, Milwaukee Economic Development Corporation
Recommended Timeline: 2005-2006

2. Catalyze the formation of an energy technology cluster or center of excellence in Milwaukee through a partnership with the Apollo Alliance

Milwaukee is the home of several large world-class technology leaders that are known for their contributions in the energy technologies industry (Johnson Controls, Rockwell International, Eaton Corporation, Magnetek Alternative Energy Division). The city also has several second-tier companies providing energy technologies. Our regional expertise in energy controls, small engine design and building technologies provide a particularly strong base for this green industry "cluster." This green cluster could be expanded in several areas to further develop Milwaukee's economy.

The resultant technologies are relevant for use in Milwaukee and export worldwide. Such a technology cluster is a twenty-first century economic requirement which can be fulfilled through application of our local existing knowledge-base and infrastructure. The Apollo Alliance, a nationally recognized entity that promotes energy independence and good jobs, can partner with the City to promote and expand this business cluster. The Alliance will work with the government, business, labor, venture capital and environmental stakeholders to make this economic development strategy a reality. Partnerships with Milwaukee's higher educational institutions and several state entities such as Focus on Energy, Center on Wisconsin Strategy and the Wisconsin Technology Council should also be strengthened.

This emerging business cluster must benefit all Milwaukeeans. To this end, the Green Team and Apollo Alliance will support partnerships between the green businesses community and workforce development agencies to ensure that Milwaukee has a well-trained workforce that can support the green economy. The Green Team and the Apollo Alliance aim to locate job opportunities in the communities in most need of expanded opportunities.

The Office of Sustainability, the Mayor's Office and the Apollo Alliance can lead the corporations, educational institutions and support organizations in a unified effort to define and execute a plan relating to our regional needs, opportunities and strategies for enhanced energy technology development.

Accountability: Office of Sustainability, Mayor's Office &
Apollo Alliance
Recommended Timeline: 2005-2007

3. Provide start-up financing, tax incentives or loans for small businesses in green technology/service fields (i.e. EBE or TID)

The City should utilize state and federal governmental loan or financial programs to provide incentives for green businesses to locate in Milwaukee. Tax incentives are viable means to support green development that enhances a company (e.g. installing energy-efficient HVAC mechanical systems where the cost saving justifies installation).

Accountability: DCD, MEDC & Common Council
Recommended Timeline: 2006-2007

4. Research, develop, build and market green technologies in Milwaukee (i.e. wind turbines, photovoltaic cells, porous pavers, green roofs, hybrid cars, etc)

Greater Milwaukee has long been one of the nation's premier manufacturing centers. Over 19% of the area's workforce is employed in manufacturing with nearly 4,000 manufacturing establishments located in Greater Milwaukee that employ 207,000 people. Industries that could develop here include:

- Building, design and consulting services
- Renewable energy infrastructure such as wind, solar and geothermal energy
- High efficiency small engines
- Heat exchangers and other high efficiency HVAC items
- Recycled material processing

Accountability: Office of Sustainability, DCD, Greater Milwaukee Committee, MMAC
Recommended Timeline: 2006-2012

5. Promote and market participation in Green Tier I & II to Milwaukee industries and small manufacturing business [Q.W.](#)

The Green Tier program, through new State legislation, places the focus away from regulatory controls and forges a link between superior environmental performance and economic gain. Green Tier encourages companies to be creative about how to improve environmental performance while they boost productivity, cut costs and grow their business. The DNR will showcase Green Tier applicants on a bus tour where Milwaukee companies could be profiled and recognized for their participation. City business organizations should promote this program among local businesses.

Accountability: Office of Sustainability, MEDC, GMC, MMAC & DNR
Recommended Timeline: 2006-2012

6. Develop a Green Corridor or eco-industrial park to attract green technologies and services

DCD should develop a strategy for the adaptive re-use of an eco-industrial park that incorporates green infrastructure and focuses on synergistic industries. The Department should work in the context of an existing industrial park to assist old and new businesses to adapt these concepts.

This should be a high-profile private/public sustainability project (and builds from the Menomonee Valley's development guidelines) that attracts green industry and green collar jobs. In an eco-industrial park, one industry's waste is the raw materials for another; energy is co-generated on-site; all storm and wastewater are processed; and buildings are encouraged to meet LEED™ or other sustainable building standard. This project would provide jobs, reduce stormwater, promote energy-efficiency and demonstrate leadership and innovation.

This park could be modeled on eco-industrial corridors in other cities such as St. Paul (www.phalencorridor.org)

Accountability: DCD, GMC, MMAC
Recommended Timeline: 2006-2012

Green Economy Case Study: The Sigma Group



The Sigma Group is an environmental/civil engineering and construction management firm located in the Menomonee Valley. The firm has developed a strong reputation for field services, investigation and remediation work, environmental engineering and development on impacted sites. The firm has grasped the business opportunities that arise from the confluence of the environment and the economy. Understanding and working with the environment can provide a path to business revitalization in Milwaukee.

Sigma helps its clients find cost-effective solutions to living with the environment. For example, Sigma helped Elite Finishing, LLC redevelop a 1.5 acre brownfield site. Sigma helped the company design industrial processes that comply with state and federal environmental regulations. With Sigma's help, Elite Finishing has created 40 family supporting jobs on the city's South side.

Sigma "walks its talk" when it comes to redeveloping brownfields. In 2003, the firm completed construction of a 28,600 sq. ft. headquarters building in the Menomonee Valley, with the assistance of MEDC and the Menomonee Valley Partners. The building follows the Sustainable Design Guidelines, a series of practical features that reduce the environmental impact of the building while making it more efficient to operate and more pleasant for occupants. These benefits have been widely communicated through the Impact Report Sigma prepared for locating their headquarters in the Menomonee Valley.

7. **Work with Mayors Daley, Cieslewicz, and others to establish a "Green Network Triangle" within the Milwaukee-Madison-Chicago region as a magnet for sustainable economic development. Coordinate efforts with local chief executives in the Intergovernmental Cooperation Council [Q.W.](#)**

City leaders should work to develop a Green Technology Triangle comprised of not-for-profit and private-public economic development organizations marketing the Cities of Milwaukee, Madison and Chicago to the world.

The vision of the network organization is to position the region's "Green Network Triangle" as a leading location in the world for investment, retention and attraction of the most innovative businesses and entrepreneurs in green technology and manufacturing as an emerging business sector. The network can also act as a job center and training for green collar jobs.

Accountability: Mayor's Office, DCD, GMC, MMAC & ICC

Recommended Timeline: 2006-2007

Objective 4: Implement “Cross Cutting” Strategies that Address Multiple Green Objectives

Background

In working to develop policies that address the Mayor’s three key objectives of stormwater management, smart energy management and job creation, the Green Team discovered that many ideas cut across the three objectives. The following recommendations broadly address the importance of environmental stewardship.

Cross Cutting Recommendations

1. Develop a Green Plan for the City

The Office of Sustainability should create a “Green Plan” to guide the city’s sustainability effort. This strategic plan for Milwaukee’s environment should proceed in two phases. In the first phase, the plan should outline green principles that the city should adopt and weave throughout the City organization and the broader community. These principles demonstrate the importance of sustainability. The Common Council should adopt these principles through resolution. This will be a critical step to getting City leadership to understand and accept more specific sustainability policies and practices.

In the second phase, the Green Plan should outline more specific environmental goals. These goals, outlined below in the “Office of Sustainability” section, should be quantitative and based on real data. Goals should exist for city government and the city-at-large. The Green Plan should go on to outline specific strategies and practices for meeting goals including project timelines and assign clear responsibility to departments and other stakeholders. The use of an accredited environmental management system could serve as a blueprint to achieve these goals (e.g. ISO 14000).

The process of creating a “Green Plan” for the City will also serve the important function of identifying potential program partnerships around specific green issues such as climate protection, green building policy or environmental justice that offer a full range of cross cutting social and environmental benefits.

Accountability: Office of Sustainability, Common Council & Green Team
Recommended Timeline: 2006

2. Develop incentives for businesses to go “Green”

The interface or points of interaction between the city and the private sector can be characterized by regulations or voluntary action. To achieve green in the private sector, the city should develop incentives to encourage voluntary action on the part of businesses. Incentives give businesses that are in a position to comply an advantage without penalizing those that are not. Incentives can be used as a stepping stone to requirements.

- a. Development Center - Develop a Green Permit that fast tracks projects incorporating innovative stormwater & energy management through the permit process
- b. RFPs – Include use of green technology/services as bonus points when considering bids for city projects
- c. Tax Incremental Financing Districts (TIF) - Funding through a TIF district could promote and/or create incentives for green infrastructure, including such things as stormwater management, access to public space, building technology/service or sustainable development guidelines.

Accountability: DCD, DOA-Purchasing, Common Council
Recommended Timeline: 2006-2007

3. Promote Environmental Education as part of the MPS core curriculum

A key to the success of any sustainability initiative is citizen understanding of the issues. Educating Milwaukee's youth on the importance of sustainability is critical. MPS has already taken steps to educate children on environmental basics. The Hawley Environmental School represents an excellent approach, but all Milwaukee schools can weave messages of environmental awareness into the classroom without detracting from the basics of reading, writing and mathematics. Readings that highlight the importance of protecting the environment and the wise use of energy can be used in reading class and "story problems" dealing with environmental issues can be used in math class. Additionally, schools can take children on field trips to facilities that demonstrate high environmental performance. The city should work with MPS to identify cost-effective opportunities to incorporate a green message into the classroom with the goal of establishing environmental education as part of the core curriculum.

Accountability: Office of Sustainability MPS, universities
Recommended Timeline: 2006-2007

4. Review regulations to remove barriers to green

In addition to creating incentives to go green, the city should remove self-imposed obstacles to green development. The city should conduct a comprehensive review of the City of Milwaukee Code and Ordinances to identify where barriers exist or prohibit the implementation of green principles and actions. For example, the city may need to revise its stormwater ordinance to allow for proper sub-grade materials to be used for various porous paving options. The Green Team should work with the Development Center, Zoning Neighborhood & Development (ZND) and Public Works (PW) Committees to revise ordinances accordingly.

Accountability: Office of Sustainability, DCD, DPW & Common Council
Recommended Timeline: 2006-2007

5. Adopt the Sustainable Design Guidelines for the Menomonee River Valley to promote widespread application of the guidelines in all valley development [Q.W.](#)

The Menomonee Valley Partners have developed a set of sustainable design guidelines with which future developments in the Menomonee Valley should comply. The guidelines are a resource to developers to educate them on green landscape practices, energy management and indoor air quality. These same guidelines could be applied to other developments around the city including the Park East corridor.

Accountability: Common Council
Recommended Timeline: 2006

**6. Implement a “Green Festivals” initiative for the lakefront festivals and the Wisconsin State Fair that increases recycling programs already in place; identifies ways to reduce energy use; powers the events with clean, renewable energy and solves stormwater problems on-site **

Milwaukee’s lakefront festivals and the Wisconsin State Fair are intimately associated with Milwaukee’s image in the region. As such, they are ideal high-profile, high-traffic venues for promoting Milwaukee as a green city.

The City of Milwaukee currently has recycling bins at festivals; however, the City should work to educate festival operations directors of the importance of recycling at festivals and how to minimize the amount of waste. The festivals could use highly visible recycling receptacles and increase their availability to make recycling easier and demonstrate Milwaukee’s commitment to the environment.

The City could assign a recycling specialist to work directly with festival groups, block clubs and business associations to educate them on practices that maximize recycling rates.

Events such as festivals and conferences are ideal ways to publicize a strong commitment to renewable energy. Conferences are now routinely marketed as being powered completely by renewable energy through the purchase of renewable energy blocks. The cost of such programs is minimal due to their limited duration and can be built into the fee structure for the event. Such a program would dovetail public education initiatives already sponsored by the City, We Energies and Focus on Energy at the Wisconsin State Fair.

Finally, both Maier Festival Park and State Fair Park have significant potential to solve stormwater quantity and quality problems on-site in ways that enhance the aesthetic experience of the events and their unique locations on the Lakefront and in the Menomonee River Valley.

Accountability: Harbor Commission, DPW-Environmental Services
Recommended Timeline: 2006-2007

**7. Use Johnson Controls new educational program to educate city employees on environmental practices **

A key component in improving city operations from an environmental standpoint is the behavior of city employees. Examples of behaviors that improve the environment are limiting waste, recycling, conserving energy and making smart transportation choices. Johnson Controls has created an effective educational tool called SEEC (Sustainable Energy Education & Communication) for teaching employees to adopt effective environmental behaviors. The educational program will teach employees to not only conserve at work, but also take this behavior into their home and educate their families on them as well.

Accountability: Johnson Controls & Dept of Employee Relations
Recommended Timeline: 2007

8. Increase citywide recycling rates and participation

The City of Milwaukee has a residential curbside recycling program that collects aluminum, paper, plastic, metal and cardboard. Milwaukee residents are required to place recyclable materials in designated receptacles provided by the city and place at curbside for collection. While recycling is required under State of Wisconsin Statute, citywide compliance levels are not uniform. Recycling participation varies by neighborhood. Low recycling compliance is defined as an annual average recycling weight of less than 20 pounds per household. A citywide effort to increase recycling participation is needed with an emphasis on low compliance neighborhoods.

Accountability: DPW-Environmental Services
Recommended Timeline: 2006-2007

9. Develop construction site recycling initiative

Approximately 30% of Wisconsin's non-municipal waste stream is made up of construction and demolition (C&D) debris. Nationally, the EPA estimates that 136 million tons of C&D debris are generated each year. This waste is expensive to dispose of in landfills (\$30-\$40 per ton) and reduces Wisconsin's long term sustainability in solid waste management. Through an active partnership with WasteCap Wisconsin, Inc., the City should become an active player in reducing the amount of construction waste that is landfilled.



Figure 4: C&D Recycling

The City should develop a construction and demolition waste management policy that would be tied into the city permit process and recommended for all city projects and projects receiving city funding (i.e. TIF). It could include education and language encouraging construction waste recycling on every project—residential and commercial—by distributing to the applicants appropriate resource information, contact information and information on potential cost savings. For every construction or demolition project, the city could request submission of a construction or demolition waste management plan for plan examiner approval. As an informational resource, WasteCap can provide templates for these plans. Credits toward other areas of the approval processes or toward a “green permit” could be awarded as incentives for complying.

For any city or city-funded project over \$2 million, the City should require implementation of construction waste recycling and documentation. WasteCap can provide to the city recycling specification language, documentation methods and basic information at no-cost which outlines the steps to successfully recycle C&D debris.

Alternatively, the City could model a construction waste policy on the City of San Jose's policy which requires a deposit from builders as part of the demolition or construction permit. With documentation, the deposit is refunded on a percentage basis equivalent to the percentage of C&D waste recycled on the project. For example, a company that deposited \$1,000 could receive a refund of \$500 for a 50% recycling rate on the project.

Accountability: DCD, DPW-Environmental Services and Common Council
Recommended Timeline: 2006-2007

Office of Sustainability- Implementing “Green”

Purpose

In formulating the final report, the Green Team came to the consensus that the City needed a strong driver for implementing the policy recommendations and keeping the green agenda at the forefront of city priorities. The Green Team strongly recommends that this driver be an “Office of Sustainability.” This office will be the primary mechanism for the Mayor to ensure that Green goals and strategies are incorporated into the city’s day-to-day operations. While the Office will be located within city government, it will leverage the resources of people and organizations outside of government to pursue community goals. The Green Team views this office not as a new bureaucratic structure, but as an investment in Milwaukee that will save costs in the long term and improve operational efficiencies.

Duties

The Office will develop a Green Action Plan to:

1. **Document Baseline Environmental Performance-** Measure the baseline environmental performance in the city including energy use, stormwater volume, air quality, water quality, number and type of green businesses, solid waste volume, etc.
2. **Promulgate Citywide Environmental Goals-** Establish citywide goals that pertain to the areas of stormwater management, smart energy use, green buildings, water policy and a green economy. These goals would be quantitative in nature and directly relate to changes in the baseline measures cited in item No.1. The Office should work with the Mayor’s staff, the Council, other regulatory agencies and citizens to establish consensus on these goals.
3. **Develop Departmental Goals-** Work with city departments and the Mayor to establish departmental goals and practices that advance the citywide goals cited in item No.2.
4. **Manage for Results-** Measure and track progress of city departments in meeting departmental goals & practices cited in item No.3, and larger citywide goals that include public and private sector performance. The Office will hold departments accountable for mutually agreed-upon green performance through regular reporting. This process could be accomplished through AIM meetings which are currently being planned for 2006.
5. **Develop a Green Marketing and Public Education Program-** Work with Mayor’s staff to coordinate a marketing effort that promotes Milwaukee as a green leader. Marketing efforts should discuss green as it relates to the economy and well-being of the city and as a driver of other city goals such as economic development, public health and quality of life.
6. **Promote Green Economic Development-** The Office will work to attract and expand new green businesses to Milwaukee to make the city a leading cluster in the green technology sector.
7. **Emphasize Communication & Consensus Building-** Use political mechanisms to build a large and diverse constituency for the green agenda among community groups, businesses and the Common Council. Additionally, the Office should provide regular reporting to the Common Council and citizen groups.
8. **Secure Funding-** The Office will work to identify funding sources for green initiatives and demonstrate the long-term cost savings and performance benefits of all initiatives. Potential funding sources include grants, the city capital budget and corporate sponsorships.
9. **Institutionalize Research and Development-** The Office of Sustainability will form strong partnerships with universities and environmental groups to continually identify cost-effective solutions to today’s environmental challenges.
10. **Promote Intergovernmental Cooperation and other Partnerships for Change-** The office will work to build productive relationships with other units of government such as MMSD, the Southeast Wisconsin Regional Planning Commission, Milwaukee County and the State of Wisconsin, as well as with local leadership groups and the non-profit sector.

Office Structure:

The Office should be led by a Mayoral appointee and serve at the pleasure of the Mayor. Due to state statute, the position may not literally be a “cabinet” position. However, the position must have the visible authority to act as an arm of the Mayor.

The Office should be further staffed on a part-time basis by:

1. Existing city personnel who have shown dedication and productivity to the green effort through participation in the Mayor’s Green Team.
2. Graduate interns in environmental and economic development fields.

The use of these resources will ensure that the Office retains a cadre of workers who are passionate about environmental issues. The Office will work with the Department of Employee relations to establish formal, but flexible agreements on the use of these staffers.

The Office should be housed in the Mayor’s Office to give it the stature to operate with Mayoral Authority.

Community Connection

The Mayor’s Green Team has been an inclusive effort among the area’s environmental professionals and other community stakeholders. The Green Team showed an extraordinary level of participation, enthusiasm and smart discussion to make Milwaukee a leader in sustainable economics. This initial phase is only the beginning. With support from the Administration, the Green Team will continue to provide guidance and innovative ideas to City policy makers. Even with the creation of an Office of Sustainability, the effort to green Milwaukee should still be driven at the grassroots level by concerned citizens. In order to leverage the Green Team’s talents, this report outlines three means by which the Office of Sustainability can continue to work with community professionals, each with their own pros and cons. The Green Team should remain intact through the transition period required to establish the Office of Sustainability. The decision on the future structure of the ‘community connection’ should be made collaboratively between the Green Team and the Office of Sustainability.

1. **Public Commission for Sustainability-** Under this approach, the City would establish a formal commission to oversee the work of the Office of Sustainability. Mayoral or Council appointees could staff the commission. This approach is advantageous insofar as it helps institutionalize the sustainability effort into city government. However, the structure risks becoming a patronage commission that lacks expertise or vitality.
2. **Public Private Partnership via Non-Profit Corporation-** The Green Team could establish a formal non-profit entity to assist the city with its greening efforts. This 501(c) 3 entity would be governed by a board of directors who would assist the Office of Sustainability. This entity would have the advantage of being outside of city government and original Green Team members would have more direct control of its make-up. It would thus have a direct and on-going connection to outside professional expertise. The entity could also raise money for greening efforts.
3. **Free form partnership-** The Green Team could continue to exist as a “free form” partnership of environmental professionals who meet at will. This approach could potentially have the most vitality and be the most innovative of any of the three approaches. However, it could not directly raise funds for projects and may not receive as much authority as the other more institutionalized approaches. A free form partnership could also potentially drift and lose viability without some core guiding principles and mission.

In addition to working with environmental professionals in this setting, the Office of Sustainability should work with other community-based organizations to market the green message to businesses and neighborhoods in a dynamic dialogue.

Potential Funding Options:

The Green Team has discussed several options for funding the Office of Sustainability each with trade-offs:

- **Operations & Maintenance (O&M) Funding**
 - The City could fund the Office of Sustainability through its regular O&M salary accounts which are supported through the property tax and other revenues. Under this approach, the Office would have the most flexibility and time to pursue Green Team recommendations and the position would be highly visible. However, given the current fiscal climate, an O&M funded position risks being eliminated. One means of limiting this risk is by making funding for the position contingent upon finding other cost savings for the city.
 - The city could hire a contract employee (issue RFP to procure services from the private sector) funded through operating expense account. Like the above scenario, this approach risks funding cuts. However, the contract terms might require guaranteed cost savings, reducing this risk. One other risk is that a contract employee may not have the stature to effectively change the City of Milwaukee's organizational culture.
- **Grant Funding**
 - Grant funding is highly advantageous in that it is politically non-controversial. The city may pursue a grant specifically for an Office of Sustainability. Finding this type of grant from a national organization or from local philanthropy would be the most advantageous of all the options. However, most grants fund specific projects, not positions broadly defined.
 - The City could use various departmental grants (recycling, brownfields, stormwater management, etc.) to fund position. The Office of Sustainability could charge a reimbursable project number, and IRIs (interdepartmental invoices) could be issued to departments that have grant funds available for this purpose. Of the grant options, this approach is the most likely to succeed. However, these grants may have limitations on eligible costs and project specific requirements. The Office could potentially spend a disproportionate amount of time trying to comply with grant processes and requirements.
- **Combination of O&M and Grant Funding-** The City could use a combination of the above strategies to mitigate the risks from each option.

Marketing

To effect change and establish green as a strategic goal for the City of Milwaukee, a comprehensive marketing campaign will need to be developed. The marketing campaign should be driven by the Mayor's Office and the Office of Sustainability and reinforced at the department level as appropriate. The goal of the marketing campaign is to provide a communications program to support, promote and educate on green principles and the city's green initiatives to shift existing mindsets and re-define Milwaukee as a clean, green city of economic opportunity that is diverse, sustainable and innovative.

An example of the need for this effort is seen in an August 25, 2005 Milwaukee Journal Sentinel article titled "Selling the City Along with the Job." According to research sponsored by the Young Professionals of Milwaukee and the Institute for Diversity Education & Leadership or IDEAL, at the University of Wisconsin-Milwaukee, there are seven key indices deemed important for young professionals in seeking a place to live. One of the categories is a city's vitality for which the variables include air quality, water quality, miles of public parks, recreation areas and farmers markets. From Milwaukee area business leaders and image makers surveyed, Milwaukee rated a five out of ten. Milwaukee's commitment to sustainability can make it more attractive to young professionals as a place to live, work, play and learn.

Priority Message Points

Milwaukee: Making Green our Business

1. Investing in our environment
2. Investing in our people
3. Investing in our economy
4. Milwaukee is an innovative place that will lead in the emerging green economy

Marketing Recommendations

1. **Integrate discussion of green and support for green initiatives into Mayor's speeches including a clear statement of goals and intent in the annual budget and State of the City addresses [Q.W.](#)**

If the Mayor is serious about making Milwaukee a leading green city, he must be a consistent and vocal champion of the green agenda to all of the city's various constituencies including labor, the business community and community groups. The Mayor must be a leader in making the green message a normal part of the civic lexicon.

2. **Develop a Milwaukee Green Team website [Q.W.](#)**

One of the first priorities of the Office of Sustainability is to create a website that touts Milwaukee as a premier green city. The website should be both a promotional and educational tool. It can contain a "to-do" list that provides a road map for individuals and businesses to go green. Specifically targeted messages could be developed for homeowners and renters, various ages of school children, various scales of businesses, etc. The website can include resources on investing in Milwaukee, managing stormwater and developing high performance buildings. The website can also help facilitate a cluster of green businesses by advertising local green businesses. The website could be linked to the city's main page and sponsored by local businesses.

3. **Establish a Mayor's Green Awards Program [Q.W.](#)**

Like the Mayor's Design Award program, the Mayor's Office should recognize innovative green building projects. This would both highlight the city as the home of green businesses and provide a cost free incentive for businesses to go green. Additionally, the green organizations can establish an "Annual Parade of Green Buildings" to showcase the progress in green economic development.

**4. Create a green logo or brand **

One means of quickly conveying the message that Milwaukee is a green city is to develop a logo or “brand.” This symbol can be applied to city vehicles, buildings, websites and literature to tie various environmental programs under an easily recognizable symbol. Businesses with high-performance green buildings could be allowed to display the brand in their window fronts to encourage a market among environmentally-conscious patrons.

**5. Invite leaders in green business to Milwaukee as part of a regularly scheduled series of events **

Milwaukee leaders should encourage green businesses to locate in Milwaukee by inviting them to the city as part of a regularly scheduled series of events. Metropolitan Milwaukee Association of Commerce and City leaders must work to put Milwaukee in the minds of business leaders as a preferred location for business. For example, Mayor Barrett could personally invite General Electric CEO Jeffery Immelt to Milwaukee to encourage him to expand his company’s emerging green business model in the City.

**6. Issue press releases to national media outlets on Milwaukee’s green efforts **

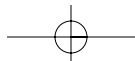
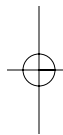
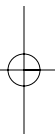
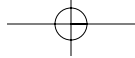
As the City adopts innovative policy proposals, the City should aggressively issue press releases to national media outlets such as Time magazine to draw attention to these initiatives. The city needs to assert itself as a green city to generate a green image in the national consciousness.

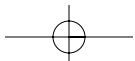
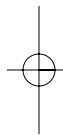
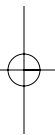
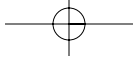
APPENDIX

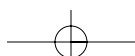
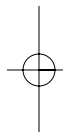
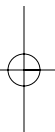
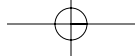
Milwaukee Green Team Members

The Green Team Steering Committee wishes to thank the many individuals who committed their time and effort to participate in the Milwaukee Green Team.

Member	Organization	Member	Organization
Sharon Adams	UW-Milwaukee	Joel Krieger	Kubala Washatko Architects, Inc.
Norm Ammerman	FJA Christiansen Roofing	Ken Leinbach	Urban Ecology Center
Jeff Anthony	WE Energies	Connie Lindholm	WI Green Building Alliance
Martin Aquino	City of Milwaukee	Chris Litzau	Milwaukee Community Service Corps
Greg Bell	JohnsonDiversey	Lisa Logan	Eppstein Uhen Architects
Susan Black	Milwaukee Co. Parks	Marianne Lubar	Marianne Lubar
Steve Brachman	UW Extension	Martha Lunz	Martha Lunz
Lynn Broaddus	Friends of Milwaukee's Rivers	Mike Mairele	City of Milwaukee
Jeffrey Browne	Public Policy Forum	Heather Mann	Urban Open Space Foundation
Susan Buchanan	WasteCap WI	Dan McCarthy	WisPark
Stu Carron	JohnsonDiversey	John McGregor	Irgens Development Partners, LLC
David Ciepluch	WE Energies	Jerry Medinger	WI DNR
Dan Davis	CG Schmidt	Tony Perez	City of Milwaukee
Christopher De Sousa	UW-Milwaukee	Ann Pieper Eisenbrown	Pieper Properties, Inc.
Carol Diggelman	MSOE	Ginny Plumeau	Cedarburg Science, LLC
Tim Dixon		Jeff Polenske	City of Milwaukee
Beth Dufek	Engberg Anderson Design Partnership	Wayne Reckard	Kubala Washatko Architects, Inc.
Tim Ehlinger	UW-Milwaukee	Sharon Robinson	City of Milwaukee
Mark Ernst	Engberg Anderson Design Partnership	Chris Rute	City of Milwaukee
Mike Fabishak	Assoc of General Contractors of Greater Milwaukee	Robert Ruvin	Robert Construction & Dev Inc.
Lyn Falk	RetailWorks Inc.	Roger Schmidt	Gibb Building Maintenance Co., Inc.
Enrique Figuero	UW-Milwaukee	Paul Schueller	Franklin Energy
Rick Flood	Riveredge Nature Center	Kevin Shafer	MMSD
Nancy Frank	UW-Milwaukee	Carl Siegrist	WE Energies
Jack Gibbons	Central Ready Mixed	Gina Spang	MPS
Linda Graebner-Smith	Interior Investments	Michael Spence	Earth Tech
Sherrie Gruder	UW Extension	George Stone	MATC
Venu Gupta	City of Milwaukee	Sig Strautmanis	General Capital Management Inc.
Joyce Harms		Una Van Duvall	City of Milwaukee
Kevin Harper	Urban Dwellings LLC	Paul Von Paumgarten	Johnson Controls
Scott Hedges	Builtworks, Inc.	Tate Walker	Energy Center of Wisconsin
Wendy Heintz-Joehnk	Arnold & O'Sheridan, Inc.	Maurice Williams	Urban Open Space Foundation
John Imes	WI Environmental Initiative	Carol Winkel	Marquette University
Joe Jacobsen	City of Milwaukee	Kurt Zimmerman	Zimmerman Design Group
Ken Kaszubowski	The Sigma Group		









Sigma Group Headquarters



Johnson Controls Brengel Technology Center



Green Roof at the UWM Great Lakes Water Institute