

City of Aurora Sustainability Plan

A long-range plan for enhancing the quality of life for present and future generations of Aurorans through sustainable practices.



CITY OF AURORA SUSTAINABILITY PLAN

A Long-Range Plan for Enhancing the Quality of Life for Present and Future Generations of Aurorans through Sustainable Practices

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**Most definitions taken from the Environmental Protection Agency (www.epa.gov) or are a hybrid of multiple definitions modified to be more applicable to our local environment.*

INTRODUCTION

City of Aurora Sustainability Plan

What is sustainability? Sustainability is the ability to meet our needs without compromising the ability of future generations to meet theirs. The intent of the City of Aurora Sustainability Plan is to improve the quality of life for present and future Aurorans by considering the long-term significance of our everyday decisions.

At this point in time (2009) Aurora has grown to 46 square miles and over an estimated 182,000 residents. The health, safety and general welfare of Aurora's inhabitants and habitats are essential to maintaining our high quality of life. To take a comprehensive approach to sustainability, this plan identifies goals in the following areas: Community Development and Land Use, Transportation and Infrastructure, Energy Efficiency and Green Buildings, Waste and Food Residuals, Water Quality and Conservation, Education and Engagement.

The purpose of this plan is to identify Focus Areas and Goals that the City can use as a framework for making educated decisions based on resource conservation and life cycle costs. A true plan for sustainability cannot be short-term; it should be a leap forward towards a long-term and multigenerational plan of responsible action.

COMMITTED TO GREEN

Aurora is a recognized environmental leader in our region. Honors such as the Illinois Environmental Protection Agency's Green Fleet designation and the Clean Air Counts Platinum Award demonstrate the City's progress and initiative in environmental sustainability. The approvals of the Countryside Vision Plan in 2000, the Riverfront Vision Plan and the Seize the Future Master Plan in 2006, and the revised FoxWalk Overlay District Design Guidelines and the RiverEdge Park Master Plan in 2008, were all steps towards green development which have led to this comprehensive Sustainability Plan.

In June 2005, Aurora endorsed and signed the U.S. Mayors Climate Protection Agreement making a commitment that as a City, we would strive to meet or beat the United Nations Kyoto Protocol greenhouse gas emission reduction targets (7% below 1990 levels by 2012), and urge state and federal government to do so as well. This agreement identifies actions ranging from anti-sprawl and land-use policies to public information campaigns to reduce greenhouse gas emissions. The City of Aurora is also a case study municipality in the 'Go To 2040' Regional Energy Profile and Regional Greenhouse Gas Inventory commissioned by the Chicago Metropolitan Agency for Planning (CMAP). Working together with the Center of Neighborhood Technology (CNT), CMAP reported on Aurora's energy consumption and greenhouse gas emission from 2000 to 2005. Ultimately, this report can assist in understanding our current greenhouse gas emissions and guide Aurora's future sustainable goals.

The City of Aurora also holds membership in many environmentally minded organizations including U.S. Conference of Mayors, Chicago Area Clean Cities, Clean Air Counts, Cool Cities, U.S. Green Buildings Council, Illi-

nois Recycling Organization, and Tree City USA. It is in the City's best interest to use all available resources, networks and experts to achieve the goals of this plan.

In October 2008, Aurora hosted GreenTown: The Future of Community conference which brought together people from throughout the US engaged in greening communities. This conference put the 'greening' of Aurora in a national framework and built momentum locally through its workshops and events. In anticipation of the conference, the City's 'Green Team' was created by Executive Order to document existing sustainable city practices, advance future green initiatives and advise the City on this Sustainability Plan. The group began this process by surveying current municipal operations through in-house workshops which were documented as achieved and ongoing sustainability projects. The team identified a number of existing accomplishments, plans, policies and practices that are in keeping with this plan and helped lay the foundation for the next steps. Building upon the GreenTown Conference, the Green Team joined with other local Fox Valley municipalities, environmentalists and businesses-minded community members to discuss environmental issues on a local level. The so-called 'State of Green' workshop highlighted some of the successes, resources and challenges to going green.

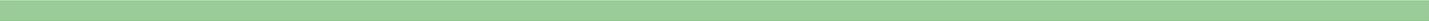
WHY?

Why Reduce Greenhouse Gas (GHG) Emissions? Within five years (2000-2005), greenhouse gas emissions in Aurora increased by 22.8%, and an overwhelming body of scientific evidence indicates that climate change is happening due to rises in such emissions worldwide; it is having a profound effect on our quality of life. Extreme weather events such as heat waves and heavy downpours have increased in recent decades. Here in the Midwest, there have been an increasing number of days with heavy precipitation and the annual amount of precipitation has increased by 10-20%. Average temperatures worldwide have risen by over one degree Fahrenheit the last century, and the impacts of climate change are increasingly apparent.

As an example of its effects, increases in precipitation are expected to lead to more frequent flooding, which tends to compromise water quality especially in the Fox River, a major source of the city's drinking water. While the City has made substantial progress on a de-combination program to separate sewer and stormwater systems and reduce the number of contaminated overflows, there will always be some level of overflow during these major rain events. Intense rainfall can also overwhelm our stormwater systems causing disruption in commerce and traffic, public and private property damage, and add additional burden on our emergency services. These consequences not only strain our environment, but our finances and local economy.

Climate change is inevitable over the next few decades, but the degree to which the future climate will change will be determined by the choices and decisions we make today. Continued heavy reliance on carbon-intensive energy sources, on the other hand, will lead to greater warming and consequences for human health, ecosystems, and the economy.

Why Increase Energy Efficiency? Over 90% of our region's total greenhouse gas emissions are due to energy consumption (Chicago Regional Greenhouse Gas Emissions Inventory), and efficient energy use can improve our environment and reduce money spent on electricity, natural gas and the infrastructures built to deliver



them. Most energy comes from the burning of fossil fuels that include coal, petroleum and natural gas. When burned, fossil fuels create carbon dioxide, a greenhouse gas.

The demand for energy is growing; as our population increases energy-dependent appliances continue to be ever more integrated into homes and businesses. Aurora has experienced an estimated increase of over 12,000 households since 2000 with an average consumption of 9,856 kWh of electricity and 808 therms of natural gas per household. The proliferation of consumer electronics, telecommunications and increasing demand for heating and cooling primarily drives the rise of energy consumption in the commercial and residential sectors. In 2005, Aurora consumed 1.4 billion kWh of electricity with 62% occurring in the commercial and industrial sector and the remaining 38% occurring in residential. The amount of natural gas consumed was 80 million therms with 45% occurring in the commercial and industrial sector and the remaining 55% occurring in residential.

Conserving energy and shifting to more sustainable sources is both important economically and environmentally. It is evident that our local energy consumption has a direct impact on our environment and greenhouse gas emissions. Shifting to more sustainable energy sources such as wind, solar and geothermal can greatly benefit our local economy and overall security. Energy efficiency can also translate into financial savings, especially for those under the poverty line or on a fixed income; 'going green' can mean 'saving green'.

FOCUS AREAS

City of Aurora Sustainability Plan

The City of Aurora Sustainability Plan is organized into six focus areas and set goals within each area. These focus areas and goals will guide our future efforts, yet allows for flexibility. As a supplement to this plan, there is an ongoing and updated list of “City of Aurora Sustainable Projects” which includes achieved, ongoing and proposed projects by the city, categorized by the same identified focus areas and goals. The timeline for implementation of Aurora’s initiatives and proposed projects will vary. Ideas should be prioritized based on ease of implementation, availability of existing resources, funding commitments, and impact or urgency. It is our intention to undertake analyses of lifecycle costs so as to demonstrate the benefit of implementing projects and programs that, at the outset, may appear to be more costly, but over time, in fact, are significantly more cost-effective due to reduced operations, maintenance and replacement schedules, among other factors.

There are many ways in which the achievement of sustainable goals can have a positive impact on local and regional economies. These goals will not only conserve resources and reduce Aurora’s greenhouse gas emissions, but also enhance economic vitality and lead to a more sustainable city. The City of Aurora Sustainability Plan is intended to be a dynamic document; experience, testing, emerging and evolving technologies will be incorporated as we achieve goals and set new initiatives. All of the following six focus areas have a significant long-term impact on the sustainability of our community. The goals within each focus are intended to guide our actions.

Focus Area 01:

COMMUNITY DEVELOPMENT AND LAND USE

Align Development Policies to Encourage Sustainable Growth. Our planning and zoning policies and ordinances provide the framework for how the community may develop. Projects to support this goal will be the revision of existing policies and removal of regulatory barriers so as to promote sustainability. Implementing Transit-Oriented Development around Aurora’s transit centers and corridors will encourage smart growth and reinforce the City’s Comprehensive Plan. The “RiverEdge Park Environmental Sustainability Handbook” and “Aurora Energy and Emissions Profile” will be critical guiding documents to achieving this goal.

Promote Planting of Native Vegetation. To minimize the impact of heavy rain events, flooding, pollution, and runoff, these projects will remove the regulatory barriers and put requirements in place for the installation and proper maintenance of Midwest Native Vegetation.

Support a Sustainable Local Economy and Develop a Green Collar Workforce. As global and local economies undergo radical transformations, these projects will support training of our local workforce for emerging technology jobs. Incentives to attract businesses providing “green jobs” will be put in place.

Focus Area 02:

TRANSPORTATION AND INFRASTRUCTURE

Encourage Alternative Transportation, Reduce Vehicle Miles Traveled and Support Sustainable Energy Use. Heightened concern about the need to develop alternative modes of transportation and the rising cost of traditional fuels dictates the development of programs and policies to encourage alternative modes of transportation and the use of alternative, sustainable fuels. Projects to support this goal will promote the use of existing transportation infrastructure and services to their capacity, increase alternative and multi-modal accessibility, and increase access to renewable energy sources.

Expand the City’s Green Fleets Program. The City will continue to be a leader in using fuel-efficient vehicles and alternative energy sources. Projects to support this goal will expand purchasing policies and maintenance programs for the City’s Green Fleets program.

Implement Sustainable Roadways. Because of the scale of our public roadway system, sustainable practices and improvements provide significant opportunities to use lifecycle analyses to reduce costs and extend efficiencies. In addition, their visibility to residents and visitors creates a dramatic opportunity to lead by example. The projects to support this goal include modifications to standard specifications for traffic signals, street lights and pavement types, while taking necessary measures to ensure public safety.

Focus Area 03:

ENERGY EFFICIENCY, CONSERVATION AND MANAGEMENT

Enhance Services and Programs for Residential and Commercial Properties. The public may be resistant to incorporating energy efficiency or “experimenting” with green buildings or adaptive re-uses of existing structures because of their fear of costs and their lack of experience with emerging technologies. The projects to support this goal will offer technical assistance and incentives to encourage early adopters among both residential and commercial property owners.

Increase Energy Sustainability in City-Owned Buildings. The City can play an important role in encouraging the adoption of emerging technologies by setting an example in its own operations and construction projects, e.g., the LEED (Leadership in Energy and Environmental Design) - certified Aurora Police Headquarters and Municipal Court Building on Indian Trail Road. The projects to support this goal include setting and implementing new standards to improve energy efficiency for new buildings, and retrofitting existing buildings to maximize energy efficiency.

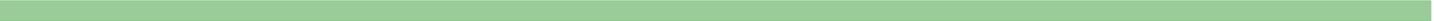
Increase Energy Sustainability in the Delivery of Public Services. Delivery of City services represents another arena in which the City can improve its own operations and model behavior for the private sector. Projects to support this goal will be initiated by City staff after a review of existing practices and seeking opportunities where service delivery can be maintained at its current level or be improved while using sustainable practices .

Focus Area 04:

Waste Minimization, Reuse and/or Recycling

Implement Sustainable Procurement Policies and Techniques. The City can be highly influential in creating a market for sustainable products because of its substantial purchasing power. Expanded demand will encourage vendors to offer more sustainable choices, which then become available for the larger consumer market. Projects to support this goal will include developing a sustainable products procurement policy, and creating sustainable internal office policies and practices.

Minimize Waste, Expand Reuse and Recycling Options. Municipal government has historically provided waste disposal services to its constituents, therefore, we have a unique ability to influence residents’ and businesses’ behavior. Projects to support this goal will reduce barriers to the availability of a wider range of recycling services, attract new businesses related to adaptive reuses and/or recycling, and use the City’s waste disposal contract to encourage waste minimization.



Focus Area 05:

WATER QUALITY AND CONSERVATION

Clean, Conserve and Replenish Natural Water Sources. The founders of the City of Aurora were attracted by opportunities they saw emanating from the Fox River. The Fox River was once the economic engine of the City and is central to our revitalization strategies. Projects to support this goal will further implement best management practices and water conservation methods for new development and adaptive re-uses, which will reduce the loads on municipal water production and stormwater infrastructure.

Focus Area 06:

EDUCATION AND ENGAGEMENT

Initiate Public Relations Campaign. A public relations campaign involves education and engagement on sustainable policies and programs beyond Aurora's engagement in the US Mayor's Climate Protection Agreement. The City currently has many outlets to communicate with our constituents including websites, direct mail, public events, and customer service interaction. Projects supporting a public relations campaign will utilize these outlets to educate and engage the public and to connect people with resources including information on and programs and incentives to make our homes, businesses, not-for-profit organizations and schools more sustainable.

Increase Awareness among City Staff and Elected Officials. Policies and ordinances can make the City's services more sustainable but our largest opportunity to lead by example is through our staff and elected officials. Training, outreach, coordination and research will help increase awareness and arm City staff and elected officials with the tools to make educated decisions based on resource conservation and life cycle cost.

TAKING ACTION

City of Aurora Sustainability Plan

Throughout the six focus areas, there may be a multitude of ideas and initiatives but it is essential for Aurora to take action now. The number of cities that are being proactive on environmental issues is growing worldwide. As of June 2009, 944 mayors from the 50 states, Puerto Rico and Washington, D.C. have signed the U.S. Mayors Climate Protection Agreement, representing more than 83 million citizens. Municipalities within our region, such as Chicago, Evanston, Elgin and Oak Park, are increasingly engaged in green initiatives and have approved or are in the process of approving sustainability plans.

LOCAL GOVERNMENTS TAKING THE LEAD

Although local governments accounts for just a portion of our community's resource use and carbon emissions, policy decisions have far reaching implications. There are many goals within this plan that have implications for municipal policy and services, and concepts such as resource conservation and life-cycle analyses that can be used to make future decisions. Action by local governments has a symbolic value and demonstrates leadership that extends beyond the magnitude of energy efficiency and GHG emissions reductions. Through sustainability, officials may better progress the local quality of life, and partner with motivated stakeholders for maximum effectiveness.

PARTNERING WITH MOTIVATED STAKEHOLDERS

There are many local entities such as environmental groups, schools, businesses and developers, not-for-profit organizations, individuals and other entities that are motivated to promote green initiatives. This Plan can be a vehicle to unite and engage these key stakeholders. No one entity in the community – not local government, not businesses, and not residents – can improve Aurora's quality of life alone. The best way for this to be achieved is through coordination.

As such, the City's 'Green Team' will be expanded to include motivated stakeholders, from key community entities, and remain intact to advance this plan. The recommendation would be that the team becomes the Environmental Advisory Committee, which shall advise the City on all matters concerning sustainability and the environment.

ESTABLISHING IMPLEMENTATION PRIORITIES

There are many goals in this plan that can achieve noteworthy improvements in our quality of life. An important step in the implementation process is to evaluate the cost and benefits of proposed actions. This will enable the City and other community stakeholders to identify short-, medium-, and long-term timeframes for accomplishing various initiatives.

For example, many sustainable initiatives proposed may be consistent with efforts that are already being implemented or can be implemented in the short-term by the City or community members. Other initiatives will require greater resources or longer development periods and can be targeted for implementation in a more long-term timeframe. For each strategy in the plan, resources, responsibilities and timeframes for implementation should be identified.

IDENTIFYING FINANCING OPPORTUNITIES

Implementing some of the goals in this plan may require a significant investment by the public and private sectors, however, having a plan can attract significant financing and grant opportunities from outside resources.

Throughout 2009, there has been considerable momentum at the local, regional and national level to assist communities with resource conservation measures. Having demonstrated a commitment to resource conservation and environmental sustainability, Aurora was chosen to participate in the ComEd Community Energy Challenge. This challenge offered the opportunity to leverage ComEd's resources with our own in order to develop and implement energy efficient projects that reduce electric use while advancing our sustainability objectives. This challenge highlights the many financial incentives that are available to the City of Aurora and local businesses and residents for energy efficiency measures. This program also offers a means for education and outreach as to the value of creating energy efficiencies – not only for the environment but also for the pocketbook. In addition, the recent federal economic stimulus packages have included funding opportunities to assist in creating and achieving goals to reduce fossil fuel emissions; reduce energy use and improve energy efficiency.

These two examples highlight a heightened awareness of green initiatives and sustainable development which has led to added assistance and opportunities for municipalities, residents and businesses. These opportunities can help move green initiatives forward, and with the adoption of a sustainability plan Aurora is effectively geared to do so.

ENGAGING LOCAL RESIDENTS

While the City has a key role to play through the implementation of this plan, the impact of these actions on Aurora as a whole depends largely on the embrace and motivation of the community. As a result of the current economic situation, and the ongoing outreach efforts by community-based organizations, federal, state and local governments, more and more residents in Aurora are becoming aware of the necessity to live more sustainably. The included “Pledge for Sustainability” is a non-binding means of securing individual commitments to achieving our collective goal. Residents and businesses who take the pledge agree to take steps towards beginning a personal sustainability plan.

Smaller measures like switching home lights to energy efficient bulbs, washing clothes with cold water, or starting a home compost bin can have a cascading effect and should not be minimized. When making decisions, such as purchasing goods and services, life-cycle analyses should be considered. By taking into account things such as the source of a given product, the cost of maintenance and upkeep, impact on the environment and its means of production, sustainable choices can be made that will benefit our wallet, our health and the environment.

The City and its community partners promote this pledge by enhancing the resources and information available to help these individuals achieve their pledged goals. The Internet is a powerful resource for engaging local citizens and for providing tools and information that makes it easier for residents to fulfill their commitment to play a role. Many sustainable resources exist from respectable sources; the included “Glossary of Terms and Resources” is intentionally packed with links to resourceful sites. For other tips and information on how residents can conserve resources and reduce greenhouse gas emissions visit the City’s green website at www.aurora-il.org/green.

CONCLUSION

City of Aurora Sustainability Plan

The City of Aurora Sustainability Plan identifies ways the City can become more sustainable and provides a framework for making educated decisions based on resource conservation and life cycle costs. It identifies sustainable goals for the purpose of conserving energy and reducing greenhouse gas emissions within the areas of Community Development and Land Use, Transportation and Infrastructure, Energy Efficiency, Conservation and Management, Waste Minimization, Reuse and/or Recycling, Water Quality and Conservation, and Education and Engagement. When added together, policies and projects to support these goals have the potential to make substantial progress on sustainability for the City of Aurora and improve our quality of life.

In order to support the goals in this Plan, the City of Aurora has identified achieved, ongoing and proposed sustainable projects and maintains additional resources such as the Aurora Energy and Emissions Profile to help guide future sustainable practices. For information on these resources, and other information on sustainable initiatives for Aurora, please visit the City's green webpage at www.aurora-il.org/green or contact the City of Aurora Planning Division.

ACKNOWLEDGMENTS

City of Aurora Sustainability Plan

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APPENDIX

City of Aurora Sustainability Plan

City of Aurora

RiverEdge Park

Environmental Sustainability Handbook

Developed by

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INTRODUCTION

The RiverEdge Park Environmental and Sustainable Concepts Task Force first met formally on April 23, 2008. Its purpose was to provide guidance to the consultant team engaged in the development of Aurora's RiverEdge Park. Members include local environmental advocates, professional environmental planners and engineers, and city staff who are interested in the topic of sustainability.

Since our initial gathering in April, we have met monthly, face-to-face, and have used the RiverEdge Park project website to work collaboratively, uploading documents and communicating with one another to share and refine our ideas. This Environmental Sustainability Handbook is a product of our collaboration. It is our hope that the Handbook will be used as a dynamic planning tool, evolving as we learn more about environmental sustainability and as new technology, products and practices are introduced into the marketplace.

It is our recommendation that the ESC Task Force now take on a new form. First, we would like to add more members from the Aurora community. In its next iteration, the ESC Task Force would become the City of Aurora's Environmental Sustainability Advisory Board. The Advisory Board's chief duty would be to confer the "RiverEdge Park Sustainability Seal of Best Environmental Management Practices" upon qualified designers, vendors, contractors, developers, products, and technology. The REPSS (RiverEdge Park Sustainability Seal) would be displayed on buildings, furnishings, equipment, infrastructure, streetscape elements and promotional/educational materials associated with the park, and ultimately could be displayed city-wide by those who qualify after review by the Advisory Board.

The Advisory Board would also recruit volunteers who would be available to conduct tours for visitors to RiverEdge Park. These tours would explain the environmentally sustainable features of the park, and help disseminate these ideas locally and regionally. The Advisory Board could also recruit volunteers to assist with planting and landscaping maintenance.

We are proud to be connected with the planning of RiverEdge Park, and feel confident that it will be a model of environmental sustainability that is "Second to None."

ENVIRONMENTAL AND SUSTAINABLE CONCEPTS TASK FORCE: STATEMENT OF PRINCIPLES

Below is the statement of principles which our Task Force developed to guide our process:

RiverEdge Park will serve as a model of environmentally sustainable practices in its design elements, construction techniques, use of technology, and choice of products. The Environmental and Sustainable Concepts Task Force members hereby request that all consultants and other Task Forces use the following principles in decision making related to development of the park:

1. **CALCULATE LIFE CYCLE COSTS:** RiverEdge Park will showcase methodologies for evaluating the true cost of a product, technique, or technology over its lifetime. In practice, if a choice is more costly upfront, but results in reduced operations, maintenance, and/or replacement costs over its useable lifetime, then it should be selected over a product, technique, or technology whose upfront cost is less.
2. **EDUCATE THE COMMUNITY ABOUT ENVIRONMENTALLY SUSTAINABLE PRINCIPLES AND PRACTICES:** RiverEdge Park will showcase examples of products, techniques, and technology that represent environmentally sustainable choices, thereby serving as a model for the public. Interpretive signage and print materials will convey this message. The RiverEdge Park will function as a dynamic, “real time” display of environmental sustainability.
3. **USE RIVEREDGE PARK AS AN “EARLY ADOPTER” LABORATORY TO TEST EMERGING ENVIRONMENTALLY SUSTAINABLE PRODUCTS, TECHNIQUES, AND TECHNOLOGY:** RiverEdge Park will function as a laboratory to test emerging environmentally sustainable products, techniques and technology. This laboratory can serve to promulgate ideas related to environmental sustainability, disseminating new ideas locally and regionally.
4. **GIVE PREFERRED STATUS TO COMPANIES DEMONSTRATING BEST ENVIRONMENTALLY SUSTAINABLE PRACTICES; NURTURE AURORA’S GREEN COLLAR ECONOMY:** Vendors, consultants, and contractors who demonstrate best management practices in the use of environmentally sustainable products and practices should be given “preferred status” in the procurement process. Such companies will be encouraged to locate their operations in Aurora as a first step toward building a “green collar” economy.

RIVEREDGE PARK SUSTAINABILITY SEAL (REPSS) – APPLICATION

The RiverEdge Park Sustainability Seal (REPSS) will be conferred by Aurora’s Environmental Sustainability Advisory Board upon projects, programs, products, techniques, technology, design, and/or businesses that represent the highest possible standards of environmental sustainability.

This application must be submitted by any designer, vendor, contractor, developer, or supplier of products/technology who wishes to qualify for the REPSS.

1.Name of Applicant’s Firm or Organization:

2.Contact information:

3.Describe the service, program, project or product to be supplied/reviewed:

4.Describe your firm or organization’s best environmental management practices in each of the following categories. If you believe some categories do not apply to your firm or organization, explain why.

Waste Minimization, Reuse, and/or Recycling

Energy Efficiency, Conservation, and Management

Water Conservation and Quality

Air Quality Optimization

Biodiversity Enhancement

Environmental Sustainability Innovation

5. Describe the way in which your service, program, project, or product will maximize and enhance the environmental sustainability of RiverEdge Park (or XXX project or development, if this application is for work outside REP). Use the Statement of Principles outlined on page 3 of this handbook as a reference point for your description.

6. If your project entails the construction of a new facility, please also provide a copy of your operations plan, demonstrating sustainable practices in the following categories:

Waste Minimization, Reuse, and/or Recycling

Energy Efficiency, Conservation, and Management

Water Conservation and Quality

Air Quality Optimization

Biodiversity Enhancement

Environmental Sustainability Innovation

GREEN PROCUREMENT POLICY

Key to a successful sustainability initiative is a procurement policy that requires consideration of the environmental impacts of a purchasing decision. Environmentally sustainable or “green” procurement policies include a commitment to waste reduction, recycled content, energy and water efficiency and human health, and establish guiding principles to help identify sustainable products and services.

Green procurement programs have several benefits. In addition to minimizing the environmental impact of purchasing decisions, they reduce waste and disposal costs and enhance worker safety and health. They also can minimize liabilities resulting from worker exposure to chemicals or hazardous materials.

Ideally, these will build on and formalize the sustainable procurement decisions already being made by the City of Aurora. The guidelines should reflect the City’s commitment to minimizing its environmental impact, as well as any other considerations relevant to its definition of sustainability. They should offer clear, practical guidance for employees who do not have a detailed understanding of environmental impacts, but must choose among multiple products and services.

To help ensure that the sustainability principles outlined in this document are integrated into everyday purchasing decisions, the Task Force recommends that an environmentally sustainable procurement policy be adopted by the consultant team engaged in the development of RiverEdge Park. This policy should require that procurement decisions include consideration of the following:

Environmental impact. In each purchasing decision, the environmental impact of a product or service must be considered, along with its safety, price, performance and availability. In comparing the environmental impacts of competing products or services, the decision-maker should consider the reversibility and geographic scale of the impacts, the degree of difference among competing products or services and the overriding importance of protecting human health.

Waste reduction. The decision to procure a product or service should be rooted in an ethic that strives to eliminate waste. Products and services that reduce or eliminate solid waste or waste in energy and water consumption should be given preference. In the case of solid waste, reducing consumption is preferable to consuming something and then recycling it.

Life cycle costs. Many highly-efficient products have higher acquisition costs but lower operating costs than their less-efficient counterparts. If a product or service is more costly upfront but results in reduced operation and maintenance costs over its lifetime, then it should be selected over a product or service with a lower initial cost.

Procurement decision-makers need comprehensive, accurate and meaningful information about the environmental impact of products and services. Many purchasers rely on approved third-party certifiers, such as ENERGY STAR®, to help ensure their purchases are environmentally sustainable. However, not all products and services are certified, so a comprehensive green procurement policy offers guidance for decision-makers in the absence of certification. Table 1 lists third-party certifiers and other helpful sources of information related to green procurement.

TABLE 1

Product or Service	Certifier/Resource	Website
Building products, office products, landscaping	U.S. EPA Environmentally Preferable Purchasing Program	www.epa.gov/epp/pubs/products/index.htm
Building products	Greenguard	www.greenguard.org
Building products, janitorial supplies	Green Seal	www.greenseal.org
Building products, janitorial products, office supplies, fleet	U.S. Office of the Federal Environmental Executive	ofee.gov/gp/gp.asp
Building projects/building design	Leadership for Energy and Environmental Design (LEED)	www.leedbuilding.org
Energy-using appliances, equipment and technologies	ENERGY STAR (a U.S. EPA/U.S. DOE program)	www.energystar.gov
Energy-using products	U.S. DOE Federal Energy Management Program	www.eere.energy.gov/femp/procurement
Wood and paper products	Forest Stewardship Council	www.fscus.org/
Electronics/computer equipment	Electronic Product Environmental Assessment Tool (EPEAT)	www.epeat.net/
Food service	Sustainable Food Service Network	www.sustainablefoodservice.net/
Site sustainability, landscaping practices	ASLA Sustainable Sites Initiative Standards and Guidelines	www.sustainablesites.org/report.html

SUGGESTIONS FOR PRODUCTS AND PRACTICES

BUILDINGS

- Motion sensors to activate lights
- Energy-efficient HVAC systems with programmable thermostats
- Solar/wind/hydroelectric/geo-thermal power
- Windows that allow maximum natural light; solar panel awnings over windows
- Green roofs (plants)
- Building materials with high recycled content (e.g., concrete, rebar)
- Sustainable flooring (consider products that are locally grown and easily transported)
- Sustainable insulation (straw, fabric?); recycled carpet tiles
- Soy membrane roofing
- Low-flow water fixtures
- Graywater system to recirculate water and water landscape
- Low- or no-VOC (volatile organic compounds) adhesives/sealants, paints, carpet and composite wood products
- Sloan brand toilets (“up” flush for liquid waste; “down” flush for solid waste)

FURNISHINGS

- LED streetscape lighting – limit light diffusion upwards (dark sky)
- Recycling bins (separated)
- Interpretive signage explaining sustainability principles and usage in REP
- Furnishings fabricated from recycled materials
- Shaded bicycle, stroller, wagon parking

HARDSCAPE

- Permeable pavers
- Pervious concrete and/or asphalt

BEST MANAGEMENT PRACTICES

- Use sustainable practices to control stormwater, erosion and sedimentation
- Support alternative transportation (information about bicycling and rail; preferred parking for carpools and hybrid vehicles)
- Minimize pollution from lighting
- Use native plants, not only for aesthetics, but also as filters to enhance water quality/runoff and minimize runoff volume
- Use environmentally-friendly cleaning products
- Institute a sustainable procurement policy
- Manage construction waste: recycle/reuse construction debris
- Purchase products and materials from local vendors to the extent feasible (within 500 miles?)
- Require concessionaires to use minimal packaging; biodegradable food containers; no Styrofoam

BIBLIOGRAPHY AND RESOURCES

Native Flora and Fauna, Ecological Restoration

- Native Plants and Natural Resources of Kane County, 3rd Edition – Dick Young
- Pizzo & Associates (ecological restoration, biodiversity) – www.pizzo.info
- Morton Arboretum – www.mortonarb.org
- Chicago Botanic Garden – www.chicagobotanic.org
- Chicago Wilderness (ecological restoration, biodiversity) – www.chicagowilderness.org
- National Wildlife Federation Wildlife Habitat Certification – www.nwf.org

Sustainable Site Development

- Water Demand and Supply - Chicago Wilderness (file on project website)
- Biodiversity Recovery Plan – Chicago Wilderness (file on project website)
- Standards and Guidelines: Preliminary Report, November 1, 2007, by the Sustainable Sites Initiative (file on project website)
- RiverEdge Park Wetland Site Assessment (file on project website)
- Phase 1 ESA Report (file on project website)
- Virginia Avenue Park, Santa Monica, California, KoningEizenberg Architects
- Sustainable Park Development, Seattle Parks and Recreation Department, Richard Geib

Sustainable Buildings

- Greater Houston Builders Association Green Building Initiative Checklist
- Built Green Remodeler Handbook – Self-Certification Checklist

Leadership in Energy and Environmental Design

- U.S. Green Building Council publications – www.usgbc.org
- LEED-ND Pilot (file on project website)
- LEED-ND Pilot Checklist (file on project website)
- LEED-NC Checklist (file on project website)
- LEED-EB (file on project website)
- LEED-Core and Shell Checklist (file on project website)

Sustainable Procurement

- U.S.E.P.A. Environmentally Preferable Purchasing Program – www.epa.gov/oppt/epp/
- Remodel Green – Seven Generations Ahead – www.sevengenerationsahead.com
- Good to be Green Directory – www.goodtobegreen.com/default.aspx

Environmental Sustainability - Definitions

- Wikipedia – www.enwikipedia.org/wiki/sustainability

PLEDGE OF SUSTAINABILITY

I, _____, hereby pledge to support sustainability locally by taking initiatives to conserve resources and reduce greenhouse gas emissions in my daily activities. I will make a conscious effort to consider life cycle costs and the impact on the environment when making decisions. I will also be a pioneer in educating and engaging my community on improving our quality of life without compromising the ability of future Aurorans to do so as well.

SIGN & DATE

(OPTIONAL)

Please leave your contact information for involvement in green initiatives and future environmentally themed outreach activities and events.

Email _____

Phone # _____

Address _____

Profession _____

Member Organizations _____

Indicate Field(s) of Interest/Expertise:

Community Development and Land Use

Waste and Food Residuals

Transportation and Infrastructure

Water Conservation and Quality

Energy Efficiency and Green Buildings

Education and Engagement

YOUR OWN PLAN OF ACTION

The City of Aurora is working towards a more sustainable community by taking initiative in energy efficiency and greenhouse gas emissions reduction. Play an important role and take action on your own initiatives using some of the easy steps listed below. For additional ideas and resources, visit the City's green webpage at:

WWW.AURORA-IL.ORG/GREEN

EASY ACTIONS

By taking these actions you can eliminate 2,135 pounds of GHG emissions per year which is like planting an acre of forest.

- Replace one out of every five auto trips (non-commute) with bike, walking or public transportation
- Replace your drive to work with a bike, walking or public transportation one day a week
- Replace all incandescent and halogen light bulbs with Compact Fluorescents (CFLs) or LEDs and turn off unused lights
- Upgrade to a water-saver (2.5 gallons per minute) showerhead
- Turn your water heater down to 120 degrees
- Wash clothes in cold water rather than hot
- Replace your 20 year old refrigerator with a new Energy Star model
- Plug all electronics into power strips and switch off when not in use
- Watch half as much TV each day

INTERMEDIATE ACTIONS

By taking these actions you can eliminate 1,070-1,335 pounds of GHG emissions per year which is like planting half an acre of forest.

- Apply weather stripping to doors and windows
- Upgrade your attic insulation to 12 inches
- Reduce amount of weekly waste by at least one garbage bag (increase recycling and consider waste when purchasing new products)

ADVANCED ACTIONS

By taking these actions you can eliminate 5,790-9,790 pounds of GHG emissions per year which is like planting 3-4 acres of forest.

- Sell your car and find alternative forms of transportation
- Install solar panel photovoltaic system
- Install solar hot water system

APPENDIX

The City of Aurora Sustainability Plan

Alternative Energy – Usually environmentally friendly, this is energy from uncommon sources such as wind power or solar energy, not fossil fuels.

Aquifer - An underground geological formation or group of formations containing water. Aquifers are natural sources of groundwater for wells and springs.

Bagasse - A dry, fibrous residue remaining after the extraction of juice from the crushed stalks of sugar cane, used as a source of cellulose for some eco-friendly paper products.

Best Management Practices (BMPs) - Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from non-point sources.

Bicycle and Pedestrian Plan - Approved in 2009, this city-wide bicycle and pedestrian plan recommends improvements in the design, construction and promotion of activities that increase bicycle ridership and walkability throughout the city. The Bike and Pedestrian Plan promotes improved transportation safety, reduce congestion, decrease emissions and promotes a viable quality of life.
www.aurora-il.org/communitydevelopment/planning

Biodegradable – Substances which, when left alone, break down and are absorbed into the eco-system.

Brownfield - Abandoned, idled, or under-utilized industrial and commercial facilities where expansion or re-development is complicated by real or perceived environmental contamination.

Carbon Emissions - Polluting carbon substances, such as carbon dioxide and carbon monoxide, released into atmosphere. Also referred to as greenhouse gas emissions (GHGs), carbon emissions are mostly produced by motor vehicles and industrial processes and forming pollutants in the atmosphere.

Carbon Footprint – A measure of impact on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.

Cathode Ray Tube (CRT) Screen – An older type of television or computer screen that uses a vacuum tube to display images. CRT screens have become much less popular mostly due to LCD screens that use much less space and require less power per display area.

Center for Neighborhood Technology (CNT) – This organization promotes more livable and sustainable urban communities, especially in the areas of climate, energy, natural resources, transportation and community development. CNT has launched two non-profits, one of which being CNT Energy which helps consumers and communities obtain the information and services they need to control energy costs. www.cnt.org

Chicago Area Clean Cities – Chicago Area Clean Cities (CACC) coalition is a voluntary organization dedicated to encouraging the use of clean fuels and clean vehicle technologies in the Chicago metropolitan area. CACC

is part of the U.S. Department of Energy's Clean Cities program. CACC is one of eighty-nine Clean Cities coalitions across the country that participates in this program. www.chicagocleancities.org

Chicago Metropolitan Agency for Planning (CMAP) – This regional agency integrates planning for land use and transportation in the seven counties of northeastern Illinois. CMAP combined the region's two previously separate transportation and land-use planning organizations -- Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC) -- into a single agency. CMAP is now developing the region's first truly comprehensive plan for land use and transportation, 'Go To 2040.' www.cmap.illinois.gov

Clean Air Counts – Clean Air Counts is a northeastern Illinois regional initiative to reduce ozone-causing emissions, thereby improving air quality and enabling economic development. It is a collaborative effort between the Metropolitan Mayors Caucus, City of Chicago, U.S. Environmental Protection Agency Region 5, and Illinois Environmental Protection Agency. This multi-year initiative seeks to achieve specific and significant reductions in targeted smog-forming pollutants and major reductions in energy consumption. www.cleanaircounts.org

Climate Change-Term used to imply a significant change from one climatic condition to another. In some cases, 'climate change' has been used synonymously with the term, 'global warming'; scientists however, tend to use the term in the wider sense to also include natural changes in climate.

ComEd Community Energy Challenge – A challenge sponsored by ComEd where a dozen local municipalities have been chosen to participate due to their demonstrated commitment to sustainability. The Challenge is designed to help municipalities in the ComEd service territory develop and implement cost-effective energy efficiency pilot projects to support municipal sustainability objectives.

Combined Sewer Overflows (CSOs) - Discharge of a mixture of storm water and domestic waste when the flow capacity of a sewer system is exceeded during rainstorms.

Compact Fluorescent Lamps (CFLs) - Small fluorescent lights used as more efficient alternatives to incandescent lighting. Also called PL, CFL, Twin-Tube, or BIAX lamps.

Composting - The controlled biological decomposition of organic material in the presence of air. Controlled methods of composting include mechanical mixing and aerating, ventilating the materials by dropping them through a vertical series of aerated chambers, or placing the compost in piles out in the open air and mixing it or turning it periodically.

Cool Cities – These are cities that have made a commitment to stopping global warming by signing the U.S. Mayors' Climate Protection Agreement. Begun in 2005, the Cool Cities campaign empowers city residents and local leaders to join and encourage their cities to implement smart energy solutions to save money and build a cleaner, safer future. <http://coolcities.us>

Cost-Benefit Analysis - An economic method for assessing the benefits and costs of achieving alternative health-based standards at given levels of health protection.

Cost-Effective Alternative - An alternative method identified after analysis as being the best available in terms of reliability, performance, and cost. Although costs are one important consideration, a cost-effective alternative is not always the least expensive alternative. For example, when selecting a method for street resurfacing, upfront cost of materials must be equated with long-term effectiveness and environmental effects of the resurfacing material chosen.

Countryside Vision Plan— Approved in 2006, this plan documents an environmentally sustainable vision for far west Aurora with development working in unison with the natural prairie environment.
www.aurora-il.org/documents/planning/Countryside_Vision_Plan.pdf

Diesel Oxidation Catalyst Mufflers - Diesel oxidation catalysts are devices that use a chemical process to break down pollutants in the exhaust stream into less harmful components. Diesel oxidation catalysts can reduce emissions of particulate matter (PM) by 20 percent and hydrocarbons (HC) by 50 percent and carbon monoxide (CO) by approximately 40 percent.

E85 - An alcohol fuel mixture that typically contains a mixture of up to 85% denatured fuel ethanol and gasoline or other hydrocarbon (HC) by volume. E-85 ethanol is used in engines modified to accept higher concentrations of ethanol. Such flexible-fuel vehicles (FFV) are designed to run on any mixture of gasoline or ethanol with up to 85% ethanol by volume.

Embodied Energy – The total energy used to extract, process, package, transport, install, and recycle or dispose of goods and services. Embodied energy is a methodology which aims to find the sum total of the energy necessary for an entire product lifecycle.

Emerald Ash Borer (EAB) – An invasive species of beetle introduced to the US in the 90s. Native to Asia, the EAB is destructive due to its larvae feeding and damaging the inner tissues of North American ash trees. The EAB was discovered in the Chicago area during the summer of 2008.

Emission - Pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities; from residential chimneys; and from motor vehicle, locomotive, or aircraft exhausts.

Energy Star — A joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and protect the environment through energy efficient products and practices.
www.energystar.gov

Energy Efficiency – Refers to products or systems using less energy to do the same or better job than conventional products or systems. Energy efficiency saves energy, saves money on utility bills, and helps protect the environment by reducing the demand for electricity.

Global Warming - An increase in the near surface temperature of the Earth. Global warming has occurred in the distant past as the result of natural influences, but the term is most often used to refer to the warming predicted to occur as a result of increased emissions of greenhouse gases, otherwise known as climate change.

Greenbelt – A stretch of park, open space or other natural setting functioning as a buffer.

Greenhouse Gases (GHG) – Gases in the Earth's atmospheres that produce the greenhouse effect. Changes in the concentration of certain greenhouse gases, due to human activity such as fossil fuel burning, increase the risk of global climate change. Greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, halogenated fluorocarbons, ozone, perfluorinated carbons, and hydrofluorocarbons.

GreenTown Conference - Is a one-day conference designed to help create sustainable communities. Mayors and elected officials, public works directors, park district directors, planners, developers, architects, landscape architects, builders, school leaders and others interested in seeing how a community can become greener. www.greentownconference.com

Green Fleets Program - The Illinois Green Fleets Program is a voluntary program where businesses, government units, and other organizations in Illinois gain recognition and additional marketing opportunities for having clean, green, domestic, renewable, American fuel vehicles in their fleet. It recognizes progressive efforts in using environmentally friendly vehicles and fuels to improve air quality while promoting our domestic fuels for greater national energy security. www.illinoisgreenfleets.org

Greywater – Waste water that does not contain sewage or fecal contamination (such as from the shower) and can be reused for irrigation after filtration.

Green Washing - A term used to describe the practice of companies spinning their product lines as being environmentally friendly as a means to appeal to consumers, persuading them to buy that product rather than another or accept a change in a product.

Habitat - The place where a population (e.g. human, animal, plant, microorganism) lives and its surroundings, both living and non-living.

Household Hazardous Waste - Hazardous products used and disposed of by residential as opposed to industrial consumers. Includes paints, stains, varnishes, solvents, pesticides, and other materials or products containing volatile chemicals that can catch fire, react or explode, or that are corrosive or toxic.

HVAC – This stands for "heating, ventilating, and air conditioning". HVAC is sometimes also referred to as climate control, and entails the cooling and heating equipment for a particular building.

Illinois Recycling Organization – A not-for-profit organization, was formed in 1980 as the Illinois Association of Recycling Centers, and changed its name to IRA in 1990. It currently has 250 members consisting of municipal, county, and state recycling coordinators, businesses, haulers and processors, not-for-profit organizations, consultants, and manufacturers of recycled-content products. www.illinoisrecycles.org

Light Emitting Diodes (LEDs) – A highly efficient conventional lighting option that uses a diode to emit visible light when electricity is applied, much like a light bulb. When many LEDs are side-by-side, they can create pictures, such as the scrolling red LED signs found on business advertisements.

Life Cycle Analyses – Evaluating the true cost of a product, technique or technology over its entire lifetime. In practice, a choice may be more costly upfront, but can result in reduced operations, maintenance, and/or replacement costs over its useable lifetime resulting in a more eco-friendly and cost-effective solution.

Life Cycle of a Product - All stages of a product's development, from extraction of fuel for power to production, marketing, use, and disposal.

Light-Emitting Diode (LED) - A long-lasting illumination technology that requires very little power. For example, LEDs are used in most flat computer screens and energy efficient electronic displays.

Pervious Surface – Surfaces that allow water to penetrate or infiltrate into the underlying soil or rock. For instance, natural soil is highly pervious, while asphalt is impervious.

RiverEdge Park Master Plan - RiverEdge Park is a regional park to be located in the heart of the City of Aurora along the eastern banks of the Fox River. The park will create a dynamic public gathering place paired with blight removal, Fox River restoration and Brownfield clean-up to stimulate significant neighborhood enhancement and reinvestment. Part urban and part natural, RiverEdge Park will provide something for everyone, including mother nature. The Park will be designed utilizing green technology and sustainable practices. Located less than a block from a Pace bus hub and the last Metra stop on the Burlington Northern Santa-Fe line, the park is part of a transit-oriented reinvestment strategy for downtown Aurora developed through a public-private partnership with the business community. <http://riveredgeparkaurora.org>

Riverfront Vision Plan— Approved in 2006, this plan documents a vision to maintain and create a sustainable environment that works in unison with development along both sides of the Fox River. The Riverfront Vision Plan plans for open space, public access and open vistas of the river with environmentally-friendly site designs that transition to the surrounding neighborhoods.
www.aurora-il.org/documents/planning

Renewable Energy Certificates (RECs) - Also known as green tags, green energy certificates, or tradable renewable certificates, certificates represent the technology and environmental attributes of electricity generated from renewable sources. Renewable energy credits are usually sold in 1 megawatt-hour (MWh) units. A certificate can be sold separately from the mega-watt hour of generic electricity it is associated with. This flexibility enables customers to offset a percentage of their annual electricity use with certificates generated elsewhere.

Roundabout - A type of road junction at which traffic enters a one-way stream around a central island. In the United States it is commonly known as a "rotary" or a "traffic circle." In the US, the traffic flow around the central island of a roundabout is counterclockwise.

Smart Growth - An urban planning and transportation theory that concentrates growth in the center of a city to avoid urban sprawl; and advocates compact, transit-oriented, walkable, bicycle-friendly land use, including neighborhood schools, complete streets, mixed-use development with a range of housing choices. Smart growth values long-range, regional considerations of sustainability over a short-term focus. Its goals are to achieve a unique sense of community and place; expand the range of transportation, employment, and housing choices; equitably distribute the costs and benefits of development; preserve and enhance natural and cultural resources; and promote public health.

Sustainability - Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.



Tree City USA – The Tree City USA® program provides direction, assistance, attention, and national recognition for urban and community forestry programs in thousands of towns and cities that more than 120 million Americans call home. www.arboday.org/programs/treeCityUSA

U.S. Green Buildings Council – A non-profit trade organization founded in 1993 that promotes sustainability in how buildings are designed, built and operated. The USGBC is best known for the development of the Leadership in Energy and Environmental Design (LEED) rating system and GreenBuild, a green building conference that promotes the green building industry, including environmentally responsible materials, sustainable architecture techniques and public policy. www.usgbc.org

U.S. Mayors Climate Protection Agreement – On February 16, 2005 the Kyoto Protocol, the international agreement to address climate disruption, became law for the 141 countries that have ratified it to date. On that day, Seattle Mayor Greg Nickels launched the US Mayors Climate Protection Agreement to advance the goals of the Kyoto Protocol through leadership and action. Two years later, The U.S. Conference of Mayors launched the Mayors Climate Protection Center to administer and track the agreement, among its other activities. By November 1, 2007, there were more than 710 signatories to the Agreement. www.usmayors.org/climateprotection

Volatile Organic Compounds (VOCs) - Any organic compound that participates in atmospheric photochemical reactions except those designated by EPA as having negligible photochemical reactivity.

Zero waste - A philosophy that encourages the rethinking of actions and decisions so that waste is reduced to zero. Zero waste introduces the concept of circular systems in which as much waste as possible is reused, similar to the way that resources are reused in nature.