SUSTAINABLE DECATUR

NOVEMBER 15, 2010

1 Gary K. Anderson Plaza
Decatur, IL 62523
ph: 217.424.2700
www.ci.decatur.il.us

627 Grove Street
Evanston, IL 60201
ph: 847.869.2015
www.teskassociates.com

2125 W North Ave
Chicago, IL 60647-5495
ph: 773.278-4800
www.cnt.org

5 North Country Club Road
Decatur, IL 62521
ph: 217.422.8544
www.hlcllp.com

Table of Contents

SUSTAINABLE DECATUR

Acknowledgements

SUSTAINABLE DECATUR

This plan summarizes the work conducted for the City of Decatur. A special thank you to the following individuals and groups who participated in the planning process and provided invaluable feedback that helped mold the plan. Without your support, expertise, and input, this plan would not have been possible. Additional thanks to all the citizens of Decatur who participated in the community workshops and provided input on the project website.

City Council
Mike McElroy, Mayor
Adam Brown, Councilmember
Jerry Dawson, Councilmember
Larry Foster, Councilmember
Patrick Laegeler, Councilmember
Julie Moore-Wolfe, Councilmember
Dana Ray, Councilmember

City Staff
Ryan McCrady, City Manager
Gregory Crowe, Assistant City Manager
Keith Alexander, Director of Water Management
Stephanie Ashe, Development Planner
Mary Cave, Civil Engineer II
Vasudha Pinnamaraju, Environmental Planner

Sustainability Team
Rick Anderson, Decatur Park District
Irma Brooks, Education Coalition
Monte Cherry, Decatur Sanitary District
Kara Demirjian-Huss, Economic Development Corporation
Jay Dunn, Macon County
Greg Florian, Richland Community College
Steve John, Agriculture Watershed Institute
Larry Livergood, Architectural Expressions
Kathy Merner, Macon County Conservation District
John Mickler, Millikin University
Sue Neislie-Lawson, Coalition Of Neighborhood Organizations
Bruce Nims, Community Foundation
Ron Shumaker, Midwest Fiber
Wegi Stewart, Community Foundation
Beth Stringer, Chamber of Commerce

Water Working Group
Shannon Allen, Soil and Water Conservation District
Paul Caswell, City of Decatur
Craig Coil, Economic Development Corporation
Larry Coloni, Village of Forsyth
Matt Grossman, Landscape Architect
Jeff Hendricks, Visitors Bureau
Chuck Hunsinger, BGM Engineers
Tim Kluge, Sanitary District
Kevin McSherry, From the Ground Up
Randy Miller, City of Decatur
Joe Nihiser, City of Decatur
Jeff Tish, Community Environmental Council
Caroline Wade, S&WCD

Energy Working Group
Randy Aldrich, MIS
Jerry Andrews, Health Department
Dave Bowman, Richland Community College
Phil Cochran, PWC Engineers
Nathan Elliott, BLDD Architects
Dave Griffiths, City Development Services
Dave Horn, Millikin University
Jim Hoyt, Tate & Lyle
Randy Johner, Building Inspections
Jim Kiefer, Park District
Heather Kimmons, Village of Forsyth
Rick Marley, City Engineering
Paul McChancy, Transit
Don Miller, Sanitary District
Ron Neufeld, City Finance
Chris Olsen, Tate & Lyle
Debbie Perry, City Purchasing
Mike Pritchett, Civic Center
Mirinda Rothrock, ADM
Mark Smith, DUATS
Mike Sotiroff, Decatur Public Schools
Todd Werpy, ADM
Rennie Young, Municipal Services
Stacey Young, Ameren IP
Bob Zuege, Ameren IP

Acknowledgements

SUSTAINABLE DECATUR

Land Working Group
Jim Alpi, Decatur Housing Authority
Jim Barr, Audubon Society
Eric Bramer, Historical and Architectural Sites Commission
Keith Brown, Golden Oldies CSA
Vickie Buckingham, City of Decatur
Randy Callison, City of Decatur
Paula Cross, Historic Consultant
Consuelo Cruz, Green Light Gardens
Todd Cyrulik, BLDD Architects
Lisa Gillen, Park District
Mark Harner, Builder
Stu Hawbaker, Master Gardener
Phil Hazenfield, Homer L. Chastain & Associates
Sue Hemp, Decatur Is Growing Gardeners
Steve Horve Jr., Builder
Richelle Irons, City of Decatur
Sam Johnson, BLDD Architects
Jan Mandernach, Decatur School Board
Paul Mariman, U of I Extension
Kent Massie, Landscape Architect
Kathy Merner, Conservation District
Hank Norris, Historic and Architectural Sites Commission
Christine Pinckard, Chamber of Commerce
Dr. Joe Schrodt, SCORE
Susan Stickle, City of Decatur
Heather Stoa, Master Gardener
Tim Stock, Farm Bureau
Donna Williams, NWRAPS

Waste/Recycling Working Group
Debbie Alexander, DPS 61
Ray Batman, DOVE Inc.
Marge Evans, Community Environmental Council
Cinda Farris, Holy Family
Renee Ferre, Decatur Memorial Hospital
Deb Garrett, County Environmental Management
Connie Kraft, CPR Enterprises
Steve Langhoff, States Attorney's Office
David McLaughlin, Richland Community College
Louis Perez, County Environmental Management
Phil Pugsley, Pugsley Container
Laurie Rasmus, County Environmental Management
Chris Rooney, Veolia
David Schaab, Waste Management
Ed Wolker, Veolia

Consultant Team
Teska Associates, Inc.
Center for Neighborhood Technology

Outreach
Homer L. Chastain & Associates, LLP

EXECUTIVE SUMMARY
Introduction

SUSTAINABLE DECATUR

Decatur has long valued its natural, agricultural and historic heritage.

From the creation of Lake Decatur to the revitalization of downtown and historic neighborhoods there is a proud tradition of stewardship in Decatur. In 2009, the City of Decatur took an innovative step by using a portion of the Energy Efficiency Conservation Block Grant to take a strategic view of the opportunities to explore energy efficiency from a whole-systems approach. In February 2010, the City of Decatur retained Teska Associates, Inc, and Center for Neighborhood Technology (CNT) to help guide the sustainability planning efforts. The team was assisted through the outreach assistance of Homer L. Chastain & Associates, LLP. The Sustainable Decatur Plan is intended to coordinate a comprehensive approach to achieve environmental, economic, and social impacts to improve the livability and quality of life in Decatur.

This Sustainable Decatur Plan was truly "authored" by the Sustainable Decatur Sustainability Team and four Working Groups. The Sustainability Team was created to guide the process, and provide necessary policy and direction decisions. The Working Groups studied the issues related to water, energy, land, waste/recycling, and made recommendations regarding strategies, goals, and projects for each topic. Both the Sustainability Team and the Working Groups were formed from a collection of City, Macon County and neighboring municipal staff and officials, business leaders, non-profit leaders, and other community stakeholders. While some of the recommendations will be the responsibility of the City of Decatur, the City's role is more of a catalyst than the sole agent of change. For Decatur to be a truly sustainable community there must a joint vision of accountability for individuals, organizations, and businesses to work together to implement change.

Vision

The Decatur area promotes economic prosperity, social and community well-being, and environmental stewardship for generations to come.

We welcome the world to join our region to seek innovative, marketable, and environmentally sound public and private actions, strong collaboration to improve the community, and involve residents who are stewards of their city and environs.

Wildflowers sprout up on the banks of Lake Decatur.

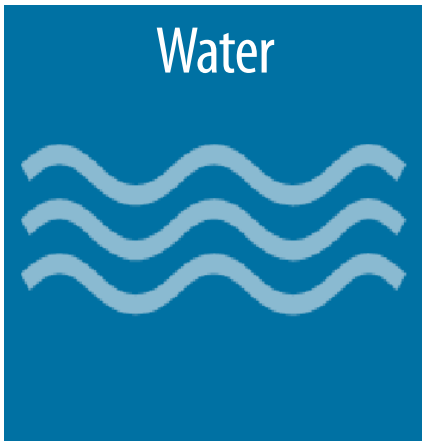
Principles

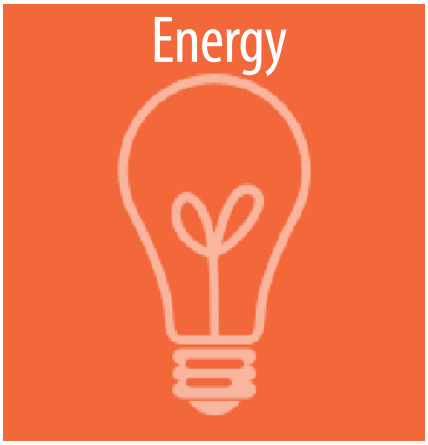
SUSTAINABLE DECATUR

The principles of the Sustainable Decatur Plan are directly linked to the Vision Statement in order to form the backbone of the recommendations of the Plan. Thus, the vision statement and the principles provide the framework upon which sustainable goals, strategies, and actions were formed. The following is a list of principles that Sustainable Decatur believes in:

- *A sustainable Decatur will provide economic opportunities, social and community well-being, and stewardship of our environment.*
- *We will develop partnerships among the business community, residents, community leaders, municipalities, county, state and federal government that are necessary to achieve a sustainable community.*
- *We will protect and restore water, land, and air to preserve biological diversity, increase environmental health, and protect a natural resource base for future generations.*
- *We will utilize community and natural resources efficiently by recognizing the interconnections between quality of life, land use, transportation, energy, water, affordable housing, air quality, waste, economic development, and the natural environment.*
- *We will foster community awareness, responsibility, involvement, and education as key elements of successful policies, programs, and projects.*

Richland Community College in Decatur is working to restore native grasses via the Prairie Restoration Program.





2030 Goals

SUSTAINABLE DECATUR

The Plan sets long-term planning goals for the year 2030, as well as shorter-term goals for the year 2020 that frame the recommendations of the implementation strategies.

- *The Decatur region will be served with a sustainable water supply to meet current and future needs.*
- *Best Management Practices (BMPs) will be utilized in 50% of new development by 2030 to filter stormwater and reduce runoff.*
- *Energy consumption in Decatur will be reduced by 25% in households and 10% for commercial and industrial use by 2030.*
- *Renewable energy sources will account for 25% of all electricity usage by 2030.*
- *Bicycle, pedestrian and transit trips will increase by 25% by 2030, while vehicle miles traveled (VMT) per capita will be decreased by 25% by 2050.*
- *New development in the "urban core" will account for 60% of the all new development by 2030.*
- *Community supported agriculture and urban gardening will increase in acreage to 300 acres by 2030.*
- *Waste going to landfills will be reduced by 50% by 2030.*

2020 Goals

Water

- **Goal 1:** *Decatur will ensure that it has an adequate water supply to allow for both population growth and economic development.*
  - *Indicator 1: Increase water supply capacity by 10,000 acre feet*
  - *Indicator 2: Dredge portions of Lake Decatur by 2,887 acre feet over next 5 years*
  - *Indicator 3: Improve Lake Decatur water quality by reducing nephelometric turbidity (NTU)*
  - *Indicator4: Decrease domestic water usage per capita by 10%*
- **Goal 2:** *Improve stormwater quality and reduce runoff by implementing Best Management Practices (BMPs)*
  - *Indicator 1: Reduce citizen response system reports of flooding by 25%*
  - *Indicator 2: Increase annual expenditures for capital improvement projects to reduce flooding*
  - *Indicator 3: Provide capital improvements to address stormwater for at least a targeted 116 acres*
  - *Indicator 4: Retrofit at least 116 acres existing development with Best Management Practices (BMPs)*
  - *Indicator 5: Achieve at least 50% of new development to be designed with BMPs*
- **Goal 3:** *Promote environmentally responsible and efficient conveyance & treatment of wastewater to meet long-term needs.*
  - *Indicator 1: Increase lineal feet of sewer rehabilitation from 11,000 to 50,000 ft annually*
  - *Indicator 2: Reuse at least 2.5 million gallons per day of municipal treated water*
  - *Indicator 3: Reduce number of sanitary overflows to zero*
  - *Indicator 4: Reduce number of consumer response for sewer overflows to zero*

Energy

- **Goal 1:** *Decatur will be conscious of building energy usage and utilize all technologies and techniques to increase efficiency*
  - *Indicator 1: Reduce average consumption per household by 25%*
  - *Indicator 2: Reduce commercial average consumption per household by 10%*
  - *Indicator 3: Reduce industrial average consumption per household by 10%*
  - *Indicator 4: Reduce energy usage for municipal-owned buildings by 10%*
- **Goal 2:** *Decatur will reduce total and average household Vehicle Miles Traveled*
  - *Indicator 1: Reduce Vehicle Miles Travelled (vmt) by 15%*
  - *Indicator 2: Increase transit usage per population by 15%*
  - *Indicator 3: Increase % of population within ¾ mile of bus route from 80% to 90%*
  - *Indicator 4: Increase % of streets with sidewalks from 38% to 45%*
- **Goal 3:** *Decatur will investigate and utilize renewable energy opportunities, when available and cost effective, to reduce the consumption of fossil fuels*
  - *Indicator 1: Increase wind energy production to 75% of the electric utility's renewable energy portfolio*
  - *Indicator 2: Increase solar energy production to 6% of the electric utility's renewable energy portfolio*
  - *Indicator 3: Consume 25,000 tons of perennial grass energy grasses in Decatur and Macon County*
  - *Indicator 4: Export 50,000 tons of perennial grass energy grasses*

2020 Goals (cont.)

SUSTAINABLE DECATUR

Land

Goal 1: *Decatur development practices will focus on urban infill and revitalization.*

Indicator 1: Increase permits for significant additions/renovations for urban development from 48% to 65% of development of all permits

Indicator 2: Increase new single-family construction within urban core from 39% to 50% of new development

Indicator 3: Decrease the amount of street pavement per housing unit of new development by 10%

Indicator 4: Increase the number of landmarked properties to 12 structures on national historic property list, 2,500 parcels in national historic districts and 1,000 parcels in local historic districts

Goal 2: *New development and redevelopment in the Decatur area will incorporate all appropriate Sustainable Neighborhood Design and Practices.*

Indicator 1: 25% of new single family developments will utilize conservation design practices

Indicator 2: Achieve at least 50% of new development to be designed with BMPs

Indicator 3: 100,000 sq. ft. of public property will use natural landscaping

Goal 3: *Decatur will promote sustainable agriculture practices, and be a national leader in urban/neighborhood and community supported agriculture.*

Indicator 1: 200,000 sq. ft. of dedicated urban/neighborhood agriculture

Indicator 2: 15,000 acres of Macon Co. agriculture using alternative crops

Indicator 3: 300 acres of Community Supported Agriculture

Goal 4: *Develop and promote a market for the sustainable production of bioenergy*

Indicator 1: Create market conditions to create demand for 10,000 acres of perennial grass.

Waste/Recycling

Goal 1: *Reduce waste at the source*

Indicator 1: Increase single family recycling participation rate from 15% to 30%

Indicator 1: Increase total weight of recycled materials from 1,430 to 3,148 tons

Goal 2: *Embrace beneficial reuse*

Goal 3: *Reach our region's full potential for recycling.*

Indicator 1: Increase total weight of recycled materials for schools, commercial, and industrial uses from 1,128 to 2,258 tons

Indicator 2: Increase total yard waste

Goal 4: *Encourage use of recycled products.*

Indicator 1: Seek a 50% reduction in waste going to landfills

BUY LOCAL AT THE DECATUR FARMERS MARKET

Who knew an ear of corn or fresh tomato could improve your health, your community and the environment, all at the same time? Buying local Decatur foods is a simple way to do all three. Local food doesn't suffer the "jet lag" of produce trucked across the country. It puts more money back into Decatur's **economy and saves a whole lot of gas.**

Decatur Farmers Market

Cross-Cutting Projects

SUSTAINABLE DECATUR

Four cross-cutting projects provide a framework for implementing sustainability in Decatur:

1 | Public Education Campaign – a citywide campaign to promote sustainable techniques through outreach, workshops and education efforts by means of a variety of media and partnerships. The public education campaign should include outreach, marketing and community involvement in all aspects of the plan. Key components include:

- *Understanding the value and conservation of water.*
- *How to save money by investing in energy efficiency.*
- *How to preserve the environment by reducing, reusing, and recycling.*

2 | Urban Core Demonstration Project – a concerted effort with local citizens to provide outreach and education to improve an existing neighborhood. A variety of sustainable strategies will be implemented varying from the use of rain gardens and home energy audits to rapid expansion of recycling efforts and reclaiming vacant land for community gardening. Targeted strategies will show cumulative changes in a specific geographic area and allow the City to gather data to show improvements over time: capital cost reductions, property value increases, energy savings per household, reduction in flooding incidents, water quality improvements, recycling rate improvements and waste reduction. Key actions include:

- *Recruiting community leaders to develop a neighborhood plan that will incorporate multiple aspects of sustainability – from creating community gardens and urban greening efforts, to reducing flooding through the use of BMPs to reducing waste, to encouraging new infill development.*
- *Work with the public education campaign to target a direct outreach effort throughout the urban demonstration area.*
- *Target public and private fundraising to provide resources for energy audits and retrofits, installation of BMPs, and reuse of vacant lots for urban greening.*

The Sustainable Decatur website is an interactive tool to use for public outreach and education.

Infill development and quality neighborhoods are priorities of Sustainable Decatur.

Cross-Cutting Projects

SUSTAINABLE DECATUR

3 | Newly Developing Area Demonstration Project – working in partnership with landowners in a developing area to demonstrate Best Management Practices (BMPs), energy saving appliances, and green building techniques. The purpose of this focused project is to not only create a model area built with sustainable development and subdivision techniques but also to show that a market in Decatur exists for this type of development. Key actions include:

- *Recruit landowners and/or developers to work together with the City and other agencies to create a demonstration project in a newly developing area*
- *Promote compact, viable, and sustainable neighborhood patterns*
- *Promote the use of conservation design and green building to preserve natural spaces and reduce energy consumption*
- *Utilize naturalized stormwater management to reduce capital costs and promote infiltration of stormwater*
- *Target energy programs such as renewable energy generation and smart meters in new development*

4 | Economic Development and Green Jobs – an emphasis in sustainable development to promote commercial and industrial development; education and workforce training; and growing green jobs and skills. Key actions include:

- *Market education partnerships and work to retain students to live in Decatur post-graduation*
- *Market Decatur as a city for entrepreneurship*
- *Utilize Farm Progress Show as a vehicle to market and attract investment in sustainable technology in Decatur*
- *Build sustainable bioenergy production and market*
- *Attract new green building*
- *Work with industry to efficiently utilize energy and water while growing economic activity*

Conservation Design Examples | Teska Associates, Inc.

Strategies & Projects

SUSTAINABLE DECATUR

The City must be an active partner in planning and implementation of the various strategies.

The final report includes over 90 individual projects. Based on input from the Sustainability Team and Working Groups each project was given a priority ranking and timeframe in order to better assist the City and its partners in identifying and allocating resources to accomplish the goals of the Plan. While all the projects are worthy of the City and its partners attention, it was important identify a few key priority projects to start within the next year. Identification of a few key projects and completion of them in an aggressive timeframe will build greater momentum in completing all the projects of the Plan. These projects are:

Water | Water supply, stormwater, and wastewater are all a part of a seamless system of the water cycle. As such it's imperative for Decatur to plan for water supply, manage stormwater, and treat and reuse waste water.

Energy | Establishing energy strategies and projects are vital to the city's long term viability. Understanding energy and how it is consumed is important for two reasons: one part consumer, and one part environmental:

- *Rising energy costs: The cost to produce energy from natural gas, and oil is rising. A reduction in consumption of these sources of energy means fewer dollars spent on energy bills. This bottom-line result is meaningful all the way from the household level, the small business, the school district, to the municipal government.*
- *Energy in buildings / transportation accounts for the highest greenhouse gas emissions: Nationwide, over 90% of all emissions are a result of the consumption of energy in buildings (electricity and natural gas) and transportation energy (oil, petroleum, gasoline). A significant reduction of energy consumption in buildings and by transportation will result in a reduction in emissions as well.*

Land | Decatur's recent Comprehensive Plan promotes urban infill and redevelopment because such development supports Decatur's existing residential base, reduces the need for costly new infrastructure, provides economic development opportunities, and builds on the sense of community. A central core strategy is to rebuild the market in the urban core through public and private actions. As a community, we need to ensure that homeowners and businesses will receive a return on their investment in the urban core. Through a variety of techniques, leadership from the public and private sector, cooperation among neighborhood groups, and incentives for private sector investment, the development market for infill can be rebuilt over time.

Carpooling, recycling, turning off unnecessary lights and switching out old appliances are among the simple but meaningful acts that reduce our environmental footprint.

FILL ME IN! WHAT IS URBAN INFILL

Urban infill is defined as new development that is sited on vacant or undeveloped land within an existing community, and that is enclosed by other types of development. The term "urban infill" itself implies that existing land is mostly built-out and what is being built is in effect "filling in" the gaps. The term most commonly refers to building single-family homes in existing neighborhoods but may also be used to describe new development in commercial, office or mixed-use areas.

While infill and redevelopment should be encouraged and promoted, we recognize that in order for Decatur to grow both in population and jobs land will be developed outside of the urban core. However, this new development does not have to occur at the expense of environmental protection. For newly developing land a goal is to make it more resource and environmentally-friendly, by incorporating specific sustainable development techniques and green buildings.

Waste/Recycling | The very essence of recycling is about sustainability, as the common understanding of recycling is the use of waste as a resource to manufacture new products and reducing the amount of waste that goes to landfills. Reducing landfill waste includes three components:

- *Reduce the amount of trash thrown out (landfill)*
- *Reuse products as much as possible*
- *Recycle items that can be resourced into new products (paper, glass, cardboard, etc…)*

Implementation

Like all planning documents, the Sustainable Decatur Plan will prove useful only to the extent that a sustained implementation effort is maintained and achieved. Achieving measurable success in Decatur will be a long-term effort, requiring a partnership between the City and various interests. For Decatur to be a truly sustainable community there must a joint vision of accountability for individuals, organizations, and businesses to work together to implement change.

Adoption of this Plan does not signal the end of the planning process in Decatur. Rather, it signals the beginning of a process of continuing implementation whereby the Plan serves as a guide for both public and private decisions affecting the future of the community. The final section of the document is a detailed Implementation Plan – identifying every goal, strategy and project/action, lead entity, the timeframe, the priority level, and participating partners.

The Plan is a living document that is a guidepost for action. Through implementing these projects, Decatur will be a more livable, economically competitive, and dynamic community for years to come.

Promote infill development in the urban core and conservation development in newly developing areas.

Decatur will be switching to a single stream recycling approach that is an easier "all-in-one" approach for participants. Recycling participation often rises quite dramatically.

Strategies & Projects

** A full set of over 90 action plan steps are included in the final chapter of the plan.*

SUSTAINABLE DECATUR

Key Water Strategies and Projects

Strategy	Project	Action Steps
Improve Drought Preparedness	Develop a drought preparedness plan	-Work with State Water Survey to draft detailed drought preparedness plan.
Expand public water supply to provide a sustainable source for the future.	Develop use of shallow aquifer Work with ADM on water supply enhancement Proceed with plans for Lake Tokorozawa.	-Support City's effort to expand water capacity by determining efficient, sustainable means to ensure adequate water is available to support the population and economic development.
Maintain capacity and quality of Lake Decatur and its watersheds.	Reduce silt and continue to dredge Lake Decatur to maintain capacity	-Continue dredging effort to sustain Lake Decatur as a vital supply of water. -Work with agricultural community and property owners to reduce runoff and sedimentation into Lake Decatur.
Incorporate the use of BMPs to manage stormwater in order to reduce runoff and improve water quality	Update Stormwater Management Ordinance	- Review and update stormwater management ordinance. - Work with County, Mt. Zion, and Forsyth for consistent codes.

Key Energy Strategies and Projects

Strategy	Project	Action Steps
Provide incentives for improving energy efficiency.	Develop an energy assessment or energy audit program for all sectors and identify options for providing assistance in the implementation of energy efficiency strategies (e.g. revolving loan fund; identify grant monies; etc.).	-Create online do-it-yourself energy assessment tool. -Create energy audit program that provides more specific energy efficiency strategies. -Identify range of financing options.
	Obtain energy audits for all public buildings and implement energy efficiency strategies.	-Audit all public buildings Create implementation plan for a mix of recommendations. -Publicly compare building consumption (e.g. Energy Star rating or by energy use intensity) for community education. -Consider method for ongoing building performance monitoring to track energy consumption and address issues when they arise.
Provide education on energy efficiency.	Develop energy efficiency campaign / education that Institute/encourage behavioral change as "a way of life/doing business" individually and collectively.	-Explain how energy efficiency benefits "me"—all sectors; all consumers (the homeowner; the business owner; the college student; facility managers, large industry etc…). -Develop K-12 educational component. -Leverage area higher learning institutions for assistance (Communications/marketing; education curriculum design).
Understand existing renewable energy opportunities and constraints.	Review current city ordinance and policies to ensure it supports renewable energy and doesn't hinder it.	-Review zoning ordinance, building code and property maintenance-related codes in particular for elements that would prohibit small scale renewable energy, unintentionally. -Research and consider on-site renewable policies for wind and solar.
Develop a market for sustainable bioenergy production.	Begin test projects of growing perennial bioenergy crops that utilize less water and fertilizer and test the impacts on water quality.	- Seek demonstration areas to test efficiency of various perennial grasses
Promote increased transit usage.	Develop educational campaign on the benefits of using transit.	-Create this program in conjunction with other programs such as carpooling, carsharing, and bicycling. At first, consider targeting particular audiences (e.g. student population.)

Strategies & Projects

** A full set of over 90 action plan steps are included in the final chapter of the plan.*

Key Land Strategies and Projects

Strategy	Project	Action Steps
Develop a market for homes in urban core	Reduce risk for urban infill development by developing financial and partnership programs to incentivize development and assist financially distressed properties.	Create a Land Bank Program / Community Land Trust: -Create land banking agency/community land trust, or utilize existing organization if possible -Identify funding sources -Identify properties for receivership/land banking / land trust -Outline program -If necessary, legally hand off property to non-profit housing developer. -Redevelop / improve lots
Support Neighborhood Planning and Improvement	Develop neighborhood plans to identify key projects that will increase homeownership, property maintenance, and quality of life to retain vibrancy of existing building stock.	-Outlying purpose and goals of neighborhood planning program. -Identify area to target for neighborhood planning. -Recruit participants in neighborhood planning process. -Identify funding source. -Consider hiring outside assistance if necessary.
Promote, require, and incentivize techniques that preserve land, promote common open space, and natural stormwater management.	Amend zoning ordinance to allow "Conservation Design Development" as a permitted use in all residential zoning districts.	-Amend zoning code to allow Conservation Development by-right. -Amend zoning code to add Conservation Development standards. -Amend subdivision code as necessary
Covert vacant and underutilized urban core properties into community gardens and urban agriculture uses.	Set aside areas of city Land that could be used for urban agriculture demonstration projects.	-Choose one or more highly visible location. -Establish joint public/private partnership.

Key Waste/Recycling Strategies and Projects

Strategy	Project	Action Steps
Increase recycling practices.	Improve existing residential waste and recycling collection procedures.	- Improve efficiency of waste collection - Promote use of recycling totes to encourage greater participation in recycling - Limit collection of yard waste and encourage composting at collection points in neighborhoods and at the county composting.
	Expand beyond residential recycling to include other sectors.	-Research the requiring of businesses to recycle as part of annual licensing (e.g. liquor licensing).
Increase community education and outreach for recycling, reducing waste, and reuse of products.	Develop and implement public education program utilizing local media, TV, newspaper, neighborhood organizations, websites and online social media (e.g. conscious shopping, recycling)	Educational Programming: -Benefits (individual/collective) of recycling -Educate consumers and businesses about need to reduce waste -Educate regarding financial and environmental costs of single use items and packaging -Involve schools (e.g. K-12 education; colleges)

Chapter 2: Context for Planning

Sustainable practices are a matter of dollars and cents. A sustainable Decatur is a healthy, prosperous, and growing community. It has a central urban core with vibrant neighborhoods; a strong economy; social infrastructure; and environmental consciousness. Sustainable Decatur is an environmentally sustainable region.

Decatur and its partners are working to bring sustainability and its benefits into everyday life for area residents and businesses. Planning for sustainability presents the opportunity to set a standard that increases economic opportunities, reduces household expenses, and takes a long-term view to make sure we have the resources to sustain our needs for generations to come. Just as citizens of Decatur took the bold step in 1924 to create Lake Decatur, we, as a broad community are coming together to see what each of us can do to play a part in sustainability.

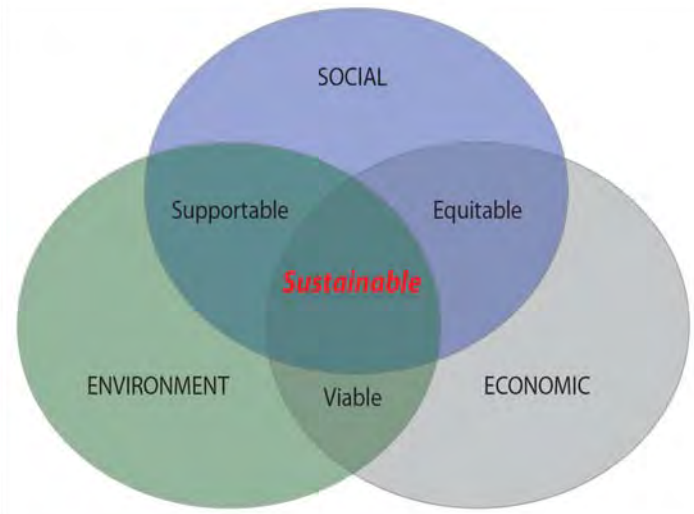
The City of Decatur recognizes that local government plays a vital role in fostering sustainability and is committed to adopting, implementing, and maintaining sustainable practices. Towards that end, the City of Decatur is coordinating an ambitious effort, in collaboration with Macon County, neighboring communities, residents, business leaders, and non-profit organizations, to work together to plan for sustainability and implement the necessary actions that result from such efforts. Each of us can take a part in this plan – from small projects that we do in and around our house to neighborhood recycling to educating our children about our water, energy, land, and other natural resources.

Sustainability: The Merger of Environmental Protection, Social Progress, and Economic Development.

What is sustainability and what does it mean in Decatur? These are two of the important questions the City, residents, and business leaders started to answer through the course of the planning process. While the traditional accepted definition of sustainability defines it as ***meeting the needs of the present without compromising the ability of future generations to meet their needs***, the on-the-ground implementation and practice of sustainability differs from community to community.

> ***sus . tain . a . bil . i . ty***
>
> 1: Meet the present needs without compromising the ability of future generations to meet their needs.
>
> -World Commission on Environment and Development (1987)

A sustainable community is one that protects and enhances the natural environment, advances immediate and long-term well-being of the community and its citizens, and increases economic development opportunities. Protection of natural resources, attention to environmental justice, advancement of social diversity, and an understanding of the integral connections between humans and the natural world, will create a stable community base on which to enhance Decatur. In addition, sustainability for Decatur should promote sustained economic growth and expansion of markets of goods and services that is achieved in ways that are environmentally benign and socially just.



Sustainability reflects the meeting of environmental conservation, social progress, and economic development.

The creation of the Sustainable Decatur Plan is an important first step in being, proactively addressing energy conservation, land resources, increased recycling, and water quality, all while enhancing local economic development efforts, which include training our workers to be competitive in the global economy, making new sources of environmentally responsible energy production, and utilizing the long-standing innovative spirit of Decatur.

Why Plan for Sustainability?

Decatur is not alone in feeling the impact of increasing costs of energy; generation of solid waste that fills landfills; and land development practices that encourage sprawl and result in the loss of natural habitat and productive agricultural land. In order to be a regional leader, the City of Decatur convened a process to understand the data, develop measurable, realistic objectives, and agree on an action plan for change.

There are many benefits to the region, city, residents, business, and other partners to promote the implementation of sustainability. Some of the most significant are:

- Increased property value, marketability, and economic growth possibilities;
- Reduction in both public and private fossil fuel energy consumption and utility costs;

- Mitigation of development impacts upon the quality of the water supply;
- Economic development opportunities for renewable energy production;
- Increase in worker productivity and student performance;
- Preservation of highly sensitive environmental and productive agricultural land;
- Reduction in landfill waste;
- Mitigation of environmentally associated health risks;
- Reduction in local natural resource degradation;
- A commitment and opportunity to become a model sustainable community; and
- Public and private models for sustainable building and development practices.

Setting Goals

The Sustainable Decatur Plan focuses on establishing a vision, setting long-term goals for the year 2030, and setting measurable and targeted goals that can be achieved by the year 2020. Establishing two collection of goal time periods was done to set a phase long enough to be ambitious, but short enough to set a horizon for projects that could be completed in the near-term. The 2020 goals were based on achievable targets, measurable objectives, and implementable strategies over the next ten years. In order to make the Plan a successful tool that can be used by the region, Macon County, the City, residents, businesses, and other partners, each action item identified phasing, cost, terms, responsible implementers and the financial resources. Plans that are too far reaching often lose momentum because they are difficult if not impossible to achieve. A goal of this Plan was to develop – with the City staff, community leaders, residents and business – plan goals and strategies with a focus on implementation. We worked together to focus on steps that the City in collaboration with the region, the County, residents, the business community, and other community leaders could understand in order to start transforming Decatur into a more sustainable community in the near-term.

Sustainable Decatur included vibrant stakeholder participation and public process, with more than 200 people who volunteered several half-day to full-day sessions to work through understanding the data, setting measurable objectives, and developing an action plan.

Plan Structure

In order to organize the wide disciplines of topic areas relating to sustainability, the Sustainable Decatur Plan represents a new generation of planning document. During the planning process assessments had to be made about how to address such an overarching issue as sustainability. We arrived at four general topics to organize the baseline analysis, setting goals, and developing projects:

Water – *water supply, stormwater and wastewater – Chapter 4*
Energy – *sources of energy, transportation – Chapter 5*
Land – *land resources, agriculture, open spaces, and built environment – Chapter 6*
Waste/Recycling – *opportunities to reduce, reuse, and recycle – Chapter 7*

There are also a number of related issues – such as public safety, education, job training, etc. – that can be tackled in subsequent efforts as this Plan builds momentum. In many planning documents, the plan is arranged around the process, and seeks to explain the steps taken to complete the plan, rather than focus on the subject matter and how to implement the actions. For the Sustainable Decatur Plan, a focused and strategic approach was necessary to address the multitude of issues that make up sustainability.

Planning Process

Decatur has long valued its natural, agricultural, and historic heritage. From the creation of Lake Decatur to the revitalization of downtown and historic neighborhoods there is a proud tradition of stewardship in Decatur. In 2009, the City of Decatur took an innovative step in setting aside funding from its Energy Efficiency Community Development Block Program (EECBG) funds to take a strategic view of the opportunities to explore energy efficiency from a whole-systems approach. Like many communities, it could have used all of the funds on specific projects or infrastructure, but felt that by taking a more comprehensive view, the City and its partners could leverage the funds for greater impact across multiple sectors. A planning process would also be a way to organize and prioritize a number of simultaneous projects and objectives the City and its partners either are currently working on, or would like to achieve in the near term.

In February 2010, the City of Decatur retained Teska Associates, Inc, and Center for Neighborhood Technology (CNT) to help guide the sustainability planning efforts. Teska and CNT take a comprehensive approach to sustainability planning by providing a combination of environmental, energy, and land use strategies, to bring all of Decatur together in pursuit of an environmentally friendly, socially progressive, and economically viable community. The team was assisted by Homer L. Chastain & Associates, LLP to provide outreach for the plan, including interviews with businesses and institutions that can play a role in implementing the plan. The planning process began with data collection and a baseline analysis in order to understand the city's current initiatives towards sustainability.

This Sustainable Decatur Plan was truly "authored" by the Sustainable Decatur Sustainability Team and four Working Groups. The Sustainability Team was created to guide the process, and provide necessary policy and direction decisions. The Working Groups studied the issues related to water, energy, land, waste/recycling,

and made recommendations regarding strategies, goals, and projects relating to each subtopic. Both the Sustainability Team and the Working Groups were formed from a collection of City, Macon County and neighboring municipal staff and officials, business leaders, non-profit leaders, and other community stakeholders. While some of the recommendations will be the responsibility of the City of Decatur, the City's role is more of a catalyst than the sole agent of change. For Decatur to be a truly sustainable community there must be a joint vision of accountability for individuals, organizations, and businesses to work together to implement change.

Vision

The Sustainable Decatur Vision Statement is a forward-looking description of the type of community that Decatur aspires to become. The Vision Statement provides guidance to current and future planning efforts as well as creating a definitive aspiration at which the community's goals are collectively aimed:

> ***The Decatur area promotes economic prosperity, social and community well-being, and environmental stewardship for generations to come.***
>
> ***We welcome the world to join our region to seek innovative, marketable, and environmentally sound public and private actions, strong collaboration to improve the community, and involve residents who are stewards of their city and environs.***

Principles

The principles of the Sustainable Decatur Plan are directly linked to the Vision Statement in order to form the backbone of the recommendations of the Plan. Thus, the vision statement and the principles provide the framework upon which sustainable strategies, goals, and projects were formed. The following is a list of principles that Sustainable Decatur believes in:

1. *A sustainable Decatur will provide economic opportunities, social and community well-being, and stewardship of our environment.*
2. *We will develop partnerships among the business community, residents, community leaders, municipalities, county, state and federal government that are necessary to achieve a sustainable community.*
3. *We will protect and restore water, land, and air to preserve biological diversity, increase environmental health, and protect a natural resource base for future generations.*
4. *We will utilize community and natural resources efficiently by recognizing the interconnections between quality of life, land use, transportation, energy, water, affordable housing, air quality, waste, the natural environment, and economic development.*
5. *We will foster community awareness, responsibility, involvement, and education as key elements of successful policies, programs, and projects.*

The Plan sets long-term planning goals for the year 2030, as well as shorter-term goals for the year 2020 that frame the recommendations of the implementation strategies.

2030 Goals:

- **The Decatur region will be served with a sustainable water supply to meet current and future needs.**

  We will expand the public water supply to meet current and future needs, while promoting more efficient use of water through reuse and conservation. We will work with industrial users to ensure that water continues to be used and reused efficiently. In addition, we will encourage a 25% reduction in daily water consumption at the household level. Currently, the average single family water use per day is 179 gallons, with a 25% goal reduction to 134 gallons by 2030. A 25% reduction in per capita water consumption at the household level is possible through water conservation efforts such as water-efficient fixtures, landscape practices, and consumer behavior.

- **Best Management Practices (BMPs) will be utilized in 50% of new development by 2030 to filter stormwater and reduce runoff.**

  In order to preserve surface water quality, reducing stormwater run-off to Lake Decatur, the Sangamon River, and its tributaries is a high priority. Through the implementation of Best Management Practices (BMP) and utilization of naturalized and green infrastructure, new development can reduce stormwater runoff and increase infiltration through low-cost, natural techniques.

- **Energy consumption in Decatur will be reduced by 25% in households and 10% for commercial and industrial use by 2030.**

  Energy costs are crucial expenses that have risen over time, thus making housing less affordable. However, energy costs can be reduced at the household level through energy efficiency with advancement in technology and lifestyle changes. Household energy use combined with commercial uses account for 30% of Decatur's total energy usage. Looking outside of the household energy usage levels, about 70% of energy consumption in Decatur is for industrial uses. While changes to industrial energy consumption may be impacted by state and federal policies and regulations, reduction of energy consumption in this sector is possible.

  In the commercial and residential sectors, multiple energy efficiency programs and funding sources exist and will likely continue to grow, including at both the federal and state government level, as well as through utility programs. A 25% reduction per household and 10% for commercial & industrial uses in energy consumption is possible through greater efficiency and consumption reduction, both of which are possible through technological advances and lifestyle changes.

- **Renewable energy sources will account for 25% of all electricity usage by 2030.**

  Currently, the City receives approximately 5% of its electric energy usage from renewable energy sources, which matches what is required by the Illinois renewable portfolio standard. Illinois, and in particular central Illinois, is ideal for the production of wind energy. The state now requires that by 2025, all major electric utilities will have an energy portfolio that includes 25% renewable energy, 75% of that coming from wind. The region's agricultural culture and focus on improvements to bioenergy also make Decatur an ideal location for the installation of a biomass-powered combined heat and power plant. With advances in technology and reduced costs of such technology, multiple forms of renewable energy will be a more cost effective proposition in the future.

- **Bicycle, pedestrian and transit trips will increase by 25% by 2030, while vehicle miles traveled (VMT) per capita will be decreased by 25% by 2050**.

  Vehicle miles traveled (VMT) is a standard measure to describe automobile use on a daily or annual basis. It incorporates both the number of vehicle trips and the length of those trips. A 25% reduction would reduce total VMT in Decatur from 15,188 to 11,391 by 2050. A 25% reduction in VMT is possible through increased public transit usage, increased pedestrian/bicycling opportunities, and better physical connections and shorter distances between residential uses and employment.

- **New development in the "urban core" will account for 60% of the all new development by 2030.**

  Unplanned and unmanaged development outside of the urban core resulting in low-density growth can cause numerous economic and environmental costs. Conversely, development and revitalization in the urban core decreases these costs by reducing infrastructure requirements, reducing Vehicle Miles Traveled, reducing development pressure on agriculture and environmentally sensitive land, increasing pedestrian and transit options, and providing economic development opportunities. Development in the urban core will be possible by developing appropriate strategies to create a market for development.

- **Community supported agriculture and urban gardening will increase in acreage to 300 acres by 2030.**

  Currently there are less than 20 acres in Macon County that are farmed as part of a Community Supported Agriculture (CSA) farm. Community Supported Agriculture is a community of individuals who pledge support to a farm operation so that consumers provide mutual support and share the risks and benefits of food production. By making a financial commitment to a farm, people become "members" (or "shareholders," or "subscribers") of the CSA. By buying shares, CSA establish a direct relationship between the food-buying public and a farm. Community supported agriculture and urban gardening integrates three main goals: environmental stewardship, farm profitability, and prosperous farming communities. By 2030, CSA acreage will grow by 1,500% to 300 acres.

- **Waste going to landfills will be reduced by 50% by 2030.**

  In 2009, the total weight of waste for Macon County going to landfills was 172,542 tons. Setting a target of reducing waste by 50% to 86,271 tons can be accomplished through increased recycling, increased material reuse, increased yard waste reuse, and reducing waste generation through the initiation of a composting (food waste) program and other efforts.

2020 Goals and Indicators

Water

Goal 1: Decatur will ensure that it has an adequate water supply to allow for both population growth and economic development.

Indicator 1: Increase water supply capacity by 10,000 acre feet
Indicator 2: Dredge portions of Lake Decatur by 2,887 acre feet over next 5 years
Indicator 3: Improve Lake Decatur water quality by reducing nephelometric turbidity (NTU)
Indicator 4: Decrease domestic water usage per capita by 10%

Goal 2: Improve stormwater quality and reduce runoff by implementing Best Management Practices (BMPs)

Indicator 1: Reduce citizen response system reports of flooding by 25%
Indicator 2: Increase annual expenditures for capital improvement projects to reduce flooding
Indicator 3: Provide capital improvements to address stormwater for at least a targeted 116 acres
Indicator 4: Retrofit at least 116 acres existing development with Best Management Practices (BMPs)
Indicator 5: Achieve at least 50% of new development to be designed with BMPs

Goal 3: Promote environmentally responsible and efficient conveyance & treatment of wastewater to meet long-term needs.

Indicator 1: Increase lineal feet of sewer rehabilitation from 11,000 to 50,000 feet annually
Indicator 2: Reuse at least 2.5 million gallons per day of municipal treated water
Indicator 3: Reduce number of sanitary overflows to zero
Indicator 4: Reduce number of consumer response for sewer overflows to zero

Energy

Goal 1: Decatur will be conscious of building energy usage and utilize all technologies and techniques to increase efficiency

Indicator 1: Reduce average consumption per household by 25%
Indicator 2: Reduce commercial average consumption per household by 10%
Indicator 3: Reduce industrial average consumption per household by 10%
Indicator 4: Reduce energy usage for municipal-owned buildings by 10%

Goal 2: Decatur will reduce total and average household Vehicle Miles Traveled

Indicator 1: Reduce Vehicle Miles Travelled (vmt) by 15%
Indicator 2: Increase transit usage per population by 15%
Indicator 3: Increase % of population within ¾ mile of bus route from 80% to 90%
Indicator 4: Increase % of streets with sidewalks from 38% to 45%

Goal 3: Decatur will investigate and utilize renewable energy opportunities, when available and cost effective, to reduce the consumption of fossil fuels

Indicator 1: Increase wind energy production to 75% of the electric utility's renewable energy portfolio
Indicator 2: Increase solar energy production to 6% of the electric utility's renewable energy portfolio
Indicator 3: Consume 25,000 tons of perennial grass energy grasses in Decatur and Macon County
Indicator 4: Export 50,000 tons of perennial grass energy grasses

Land

Goal 1: Decatur development practices will focus on urban infill and revitalization.

Indicator 1: Increase permits for significant additions/renovations for urban development from 48% to 65% of development of all permits

Indicator 2: Increase new single-family construction within urban core from 39% to 50% of new development

Indicator 3: Decrease the amount of street pavement per housing unit of new development by 10%

Indicator 4: Increase the number of landmarked properties to 12 structures on national historic property list, 2,500 parcels in national historic districts and 1,000 parcels in local historic districts

Goal 2: New development and redevelopment in the Decatur area will incorporate all appropriate Sustainable Neighborhood Design and Practices.

Indicator 1: 25% of new single family developments will utilize conservation design practices

Indicator 2: Achieve at least 50% of new development to be designed with BMPs

Indicator 3: 100,000 sq. ft. of public property will use natural landscaping

Goal 3: Decatur will promote sustainable agriculture practices, and be a national leader in urban/neighborhood and community supported agriculture.

Indicator 1: 200,000 sq. ft. of dedicated urban/neighborhood agriculture

Indicator 2: 15,000 acres of Macon Co. agriculture using alternative crops

Indicator 3: 300 acres of Community Supported Agriculture

Goal 4: Develop and promote a market for the sustainable production of bioenergy

Indicator 1: Create market conditions to create demand and make economic profitability for 10,000 acres of perennial grass.

Waste/Recycling

Goal 1: Reduce waste at the source

Indicator 1: Increase single family recycling participation rate from 15% to 30%

Indicator 1: Increase total weight of recycled materials from 1,430 to 3,148 tons

Goal 2: Embrace beneficial reuse

Goal 3: Reach our region's full potential for recycling.

Indicator 1: Increase total weight of recycled materials for schools, commercial, and industrial uses from 1,128 to 2,258 tons

Indicator 2: Increase total yard waste

Goal 4: Encourage use of recycled products.

Indicator 1: Seek a 50% reduction in waste going to landfills

Introduction

A primary objective of the Sustainability Plan is to present clear implementation strategies and projects for the City, businesses, and local residents to employ in order to make measurable impacts towards sustainability. Prior to the formation of strategies and projects, a necessary first step is to establish a baseline of current city data in regards to various sustainability parameters. For the baseline analysis, the tracking variables include the following four elements, and associated subtopics:

Baseline:

1: A measurement, calculation, or location used as a basis for comparison.

- Water – Stormwater, Water Supply and Quality, Waste Water
- Energy – Buildings, Transportation, Renewable Energy
- Land - Urban Infill and Revitalization, Sustainable Neighborhood Design and Practices and Community Supported Agriculture
- Waste/ Recycling – Recycling, Food and Yard Waste, Regional Network for Recycling

Where possible, 2010 data was used; however if 2010 data was not available the date of such data is noted.

How the Baseline Analysis was Used

The baseline analysis was used in part to determine the appropriate strategies and necessary detailed action steps and projects to address those issues that were raised in the interviews, field observation, and review of city policies. In addition, tracking this baseline data over time will not only allow the city, businesses, and residents to better measure progress, but also allow a quantitative base for amendments to policy, strategies, and priorities as necessary.

1. Water

a) Water Supply and Quality

Lake Decatur is the water supply reservoir for the City of Decatur. Lake Decatur has a surface area of 4.5 square miles and maximum storage capacity of 22,000 acre-feet (7,169 million gallons).[1] Total water withdrawal from the Lake currently averages 36 million gallons per day for a population of 86,705. While Lake Decatur has served the city and its industry for several decades, additional water supply is necessary. The projected water requirements for 2031 based upon a low growth of development and population in the area will require withdraw of 49 million gallons (147 acre-feet) of water a day from Lake Decatur.[2]

Currently during periods of normal rainfall, the Sangamon River supplies sufficient capacity to meet the city's needs. However, during extreme droughts the river flows at a small fraction of the volume of water needed. Under drought scenarios, Lake Decatur provides a reservoir that only meets the shortfall for a few months. According to the 2004 MWH Study:

Decatur Water Supply Needs		
	Low Growth	**Moderate Growth**
Additional Storage Volume: Acre-Feet	Annual Risk of Water Shortage	Annual Risk of Water Shortage
6,000	5%	13%
10,000	2%	9%
13,000	1%	6%
20,000	0.2%	2%

The 2007 Water Plan for the City of Decatur and Macon County recommended several strategies to meet the potential shortage of water in drought conditions. These strategies were updated in October 2009 and include:

1. Archer Daniels Midland Company Water Supply Proposal (approximately 5,200 acre-feet water supply): ADM has proposed a yet to be announced strategy to provide 5,200 acre-feet of additional water supply. It is anticipated that ADM will announce their plan to the public in 2010.
2. Shallow groundwater (2,800 acre-feet water supply): A soon to be completed feasibility study indicates that the construction of one or two shallow groundwater collector wells near the South Water Treatment Plant could add to the water supply.

[1] "Watershed Monitoring for the Lake Decatur Watershed," Principle Investigators: L. Keefer, M. Demissie, and E. Bauer, http://www.isws.illinois.edu/wss/watersheds.asp#lkdecatur, downloaded on April 9, 1010

[2] "The Water Plan for the City of Decatur and Macon County," City of Decatur, Prepared by Homer L. Chastain & Associates, LLP, 2007

3. Lake Tokorozawa (2,000 acre-feet water supply): The City should obtain the water rights to or purchase the Lake Tokorozawa facility to secure additional water supply.

In addition, the 2007 Water Plan makes a number of recommendations for sediment storage basin improvements and sediment management to mitigate the reduction of capacity of Lake Decatur. These include: marketing and recycling of sediment in the Oakley Storage Basin, a mining plan for Lake Decatur, accelerated dredging; and retaining the Oakley Storage Basin as a permanent site for future dredging of Lake Decatur, constructing sediment traps as part of the dredging operations for Basin 1 and Basin 6, protecting the shoreline from erosion, and enlarging the maintenance program of existing riprap. As of May 2010 the mining plan for Lake Decatur, accelerated dredging and the construction of sediment traps have been completed or are under contract for completion by December 2011.

Parts of the Sangamon River Basin overlie the Mahomet Aquifer creating natural hydraulic connections between surface waters and groundwater. These connections are important from both a water quantity and water quality perspective. The 2009 study "A Plan to Improve the Planning and Management of Water Supplies in East Central Illinois"[3] determined that the issue is region wide. According to the study, demand for water and water withdrawals in east central Illinois will increase by the year 2050 to a range of approximately 100 to 300 mgd above the 460 mgd that was reported for the 2005. It is important to note that 2005 was a drought year in parts of the region. As part of the east central Illinois water supply system, groundwater withdrawals from the Mahomet Aquifer (the current emergency water source for Decatur) under normal weather conditions would increase from about 220 mgd in 2005 to 260 mgd in a Less Resource Intensive (LRI) scenario in 2050, 280 mgd in the Baseline (BL) scenario, and 300 mgd in the More Resource Intensive (MRI) scenario. The study also reinforces past studies undertaken by Decatur, stating that the three cities that use reservoirs as their prime sources of water supply (Decatur, Springfield, and Bloomington) will have "increasing water supply deficits during droughts of record in the future, unless additional sources of supply are developed and/or demand is reduced. Decatur could face the possibility of water shortages within a single drought season." The plan promotes the sustainability of water supplies as a foundation for regional water supply planning and management. The sustainability of water supplies is defined as the provision of dependable and adequate supplies of clean water to meet the demands of all users in a manner that can be maintained for an indefinite time without causing unacceptable environmental, economic, or social costs.

The Water Plan recommends a number of strategies to preserve water supply in the 15-county region, including that public water supplies be managed to provide a dependable and adequate supplies of water during the recurrence of the multi-year droughts-of-record, similar to those that occurred in the 1930s and 1950s. A 90 percent confidence level should be used for yields. Bloomington, Decatur and Springfield urgently need additional sources of water and/or need to reduce demand. Decatur currently uses about 36 mgd, and the 90 percent yield of a drought of record is 34.6 mgd.

The Plan recommends water efficiencies to enhance supply and reduce demand, including exploration of:

- Water reuse;
- Detained stormwater;
- Implementation of best management practices for water supply facilities; and
- Examination of water pricing models and practices to reduce demand.

[3] "A Plan to Improve the Planning and Management of Water Supplies in East –Central Illinois," Office of Water Resources of the Illinois Department of Natural Resources, June 2009

b. Water Supply Quality

The drainage area of the Sangamon River upstream of the Lake Decatur dam is 925 square miles. The watershed is includes portions of seven counties in east-central Illinois and is approximately 89% agriculture land use. Due to these agricultural uses, Lake Decatur occasionally has high concentrations of nitrate-nitrogen (nitrate-N). The City of Decatur constructed an ion exchange facility to reduce nitrate from the drinking water which came on-line in June 2002. The Illinois State Water Survey monitors the water supply for the purpose of collecting reliable hydrologic and water quality data throughout the watershed for use by city planners to efficiently operate the nitrate removal facility and by resource managers to develop watershed management alternatives based on scientific data.

Water Supply and Quality Baseline Indicators		
Baseline Indicator	**2010 Baseline**	**2020 Goal**
Obtain additional water supply	22,000 acre feet	10,000 additional acre feet
Dredge portions of Lake Decatur	900 acre feet over past 6 years	2,887 acre feet over next 5 years
Watershed erosion control measures; tons of soil conserved annually (Macon County SWCD) from entering Lake Decatur	5,227 tons of soil	6,020 tons
Urban Construction Site	Few of MS4 sites in compliance prior to site inspections. Most need advice or modifications	A majority of MS4 sites in compliance prior to 1st inspection.
Improve Lake Decatur water quality	33.4 NTU*	31.7 NTU*
Reduce average daily residential water use per capita	179 gal/day	161 gal/day
* NTU = nephelometric turbidity units		

c. Stormwater

Flooding has been a significant issue in Decatur for a number of years. To address flooding, the central area of Decatur was provided with stormwater improvements funded through General Obligation Bonds dating to 1970, 1975, and 1982. In addition, since 1993, the City utilizes a Citizen Response System (CRS) to report requests, complaints, and maintenance programs. The data shows that most of the complaints since the system was put into place are outside the urbanized area where stormwater improvements were made.

A detailed Stormwater Master Plan – Phase I was completed in June 2009. The plan identifies 46 drainage problem areas based on previous reports and studies, interviews, field observations, public input, and flooding photos. Five projects were identified as Early Action Projects in the study, and funding mechanisms were discussed in the study to pay for associated capital improvements. In addition to capital improvements, the study also recommends a number of regulations, standards and policies. These include:

1. Updating storm drainage policy: Current policy controls the 100-year storm event at a release rate of 1 cfs/acres for developments that are two acres or less and three year existing flow rate for sites larger than two acres. Current regulations also do not have policy and design criteria for storm sewers, swales, inlets, culverts and channels. In addition, the City's stormwater management policies do not require the use of Best Management Practices (BMPs); however, the study recommends development

of policies and guidance for use of Best Management Practices (BMPs). Use of Best Management Practices would provide a series of benefits:

- Improved quality of runoff;
- Increased absorption of water on-site versus into drains and pipes in order to feed groundwater; and
- Reduced sedimentation and runoff into Lake Decatur and other waterways

2. Stream and ditch maintenance:
    - Ditch (manmade channel) maintenance – ongoing removal of silt, debris, and overgrown vegetation helps to maintain flood control capacity of drainage ditches and reduces sedimentation that may eventually flow into Lake Decatur and other water resources.
    - Natural stream and channel maintenance – ongoing removal of silt, debris, trash, and overgrown vegetation is important to maintain flood control capacity, but some vegetation is needed to help prevent erosion.

3. Floodplain management to evaluate the purchase of flood-prone properties and return to multi-purpose open space.

4. Green infrastructure to comply with NPDES MS4 General Permit, including:
    - Public participation;
    - Illicit discharge detection and elimination;
    - Construction Site Runoff Control, including erosion and sediment control BMPs, site plan review, and site inspection/enforcement;
    - Post construction runoff control; and
    - Pollution prevention/good housekeeping.

In both capital and non-capital projects, sustainability projects should focus on the utilization of Best Management Practices (BMPs). BMPs is a conservation practice or systems of practices and management measures that control soil loss and reduce water quality degradation caused by nutrients, animal wastes, toxics, and sediment, as well as the quantity of water generated by stormwater that runs into a municipal stormwater system. BMPs include either structural or nonstructural methods to prevent or reduce the movement of sediment, nutrients, pesticides and other pollutants from the land to surface or ground water.

Utilization of BMPs can be applied in two different ways. The first is the use of BMPs in large capital projects. However, realizing that many of the capital projects listed in the stormwater plan will not occur for some time, the second utilization of BMPs is by non-structural naturalized stormwater management, for implementation by residents. To address near term issues, projects should focus on non-structural naturalized stormwater management utilizing BMPs such as bioswales, rain gardens, pervious pavers, native landscaping, and landscape buffers.

Stormwater Baseline Indicators		
Baseline Indicator	**2010 Baseline**	**2020 Goal**
Number of citizen response system reports		25% reduction
Annual expenditures of capital improvement projects to reduce flooding	$100,000	$5 million
Number of acres of reduced flooding through capital improvement projects	N/A	116 acres
Retrofitting current development with BMPs	0 acres	116 acres
Number of acres developed with BMPs	0 acres	50% of all new acres


Bioswale


Rain Garden


Pervious Paving


Curb cut for bioswale


Native Landscaping


Pervious Paving and Bioswale


Landscape Buffer

Examples of the use of naturalized stormwater management practices.

d. Waste Water:

- Waste water is currently treated and released downstream of Lake Decatur.
- There is excess capacity of waste water treatment, allowing for growth in industry for Decatur.
- There is a history of reuse of water, particularly by the industrial sector, prior to discharge.
- There have been discussions regarding the reuse of waste water on golf courses with the park district.

Waste Water Baseline Indicators		
Baseline Indicator	**2010 Baseline**	**2020 Goal**
Lineal feet of sewer rehabilitation annually	11,000	50,000
Reclaimed treated municipal waste water reused for non-domestic purposes	0	2.5 mgd
Number of sanitary overflows annually		0
Number of basement backups due to mainline issue or problem	272	0

2. Energy

a) Energy Efficiency in Buildings

This portion of the baseline analysis provides energy consumption data obtained from Ameren Utilities and analyzed specifically for the City of Decatur. The following is designed to give information about how energy is consumed by the residents, businesses (both commercial and industrial) and the city. Understanding this consumption will help Decatur develop programs that effectively impact that energy use, and provide the basis for measuring the impact of programs that are implemented in the community. It is an important time for Decatur to understand its energy consumption and develop strategies for reducing that consumption. At the very least, energy efficiency means using less energy, which translates to reduced costs during a time that rising energy prices are the norm. In the bigger picture, as the nation (moreover the world) begins to address the effects of climate change, there are unprecedented amounts of funding that target energy efficiency measures.

The federal Department of Energy's Energy Efficiency and Conservation Block Grants recently awarded "formula grants" to cities nationwide with a population over 35,000 and counties over 200,000 in an effort to identify and implement energy efficiency strategies.[4] States will see over $500 million in funding to be distributed among its communities, and in a competitive arm of this funding source[5], 25 cities, regions or states were recently awarded a total $450 million in the "retrofit ramp-up" program[6]. In addition to federal funding, it is expected that utilities will continue to fund various efficiency programs, as well as growth in nonprofit foundational support for energy and climate action planning efforts. It stands to reason that if Decatur can accurately benchmark its energy use, such data can be used to identify sustainable strategies, and then measure success through reduced energy consumption. If the city is able do this, they are in a good position to receive funding from these competitive funding sources, which are seeking innovative, well thought out strategies that result in measurable reductions in energy consumption.

Decatur Natural Gas Consumption

In central Illinois, natural gas is the primary space heating fuel. In the residential sector it is also used for hot water heating, clothes dryers, and cooking. In general, residential natural gas consumption per household has been decreasing slightly over time as homes become more efficient. In the commercial and industrial sectors, it is used primarily for heating, cooking (in restaurants) and industrial processes. Consumption in the commercial and industrial sector has also decreased due to both efficiency and de-industrialization. Natural gas is measured in therms.

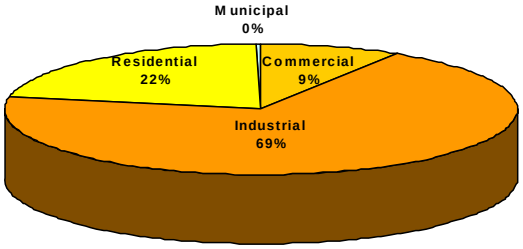
In Decatur, the majority of natural gas consumption is in the industrial sector, followed by residential, commercial and municipal. Total consumption has decreased from 125.7 million therms in 2007 to 114.2 million therms in 2009. It should be noted that this is *gross* consumption, and doesn't take into account weather changes between winters (weather normalization). In 2009, 69% of all natural gas consumption was in the industrial sector and 22% of consumption was from the residential sector. It should be noted that only about 80% of Decatur households use natural gas as their heating source, while about 17% heat by electricity.[7] The table and image below show the complete picture of Decatur's natural gas consumption:

[4] "The Energy Efficiency and Conservation Block Grant" U.S. Conference of Mayors handout
[5] "The Energy Efficiency and Conservation Block Grant" U.S. Conference of Mayors handout
[6] Office of the Vice President press release. "Vice President Biden Kicks of Five Days of Earth Day Activities with Announcement of Major New Energy Efficiency Effort: 25 Communities Selected for Recovery Act 'Retrofit Ramp-up' Awards" April 21, 2010.
[7] U.S. Census Bureau Decennial Census 2000 (Numbers not available in 2006-2008 American Community Survey.)

Natural Gas Consumption by sector and year

Decatur Natural Gas Consumption, in therms	2007	2008	2009
Residential	24,054,348	26,260,360	24,901,994
Commercial	10,008,280	10,920,436	10,126,865
Industrial	91,436,593	82,270,329	78,993,635
Municipal	273,465	289,375	261,657
Total Consumption, citywide	**125,772,686**	**119,740,500**	**114,284,151**

Decatur Natural Gas Consumption, 2009



In order for the average resident or business owner to begin to understand what these larger citywide numbers mean, it helps to break this down into more manageable, personal numbers. A homeowner might not grasp exactly what having consumed 24 million therms of natural gas in 2009 means, but can better relate to his/her annual household consumption and how that affects the household budget. To the right is the average annual consumption and costs for the residential, commercial and industrial sectors, based on 2009 numbers.

Average Natural Gas Consumption/Cost, 2009

Sector	Avg. therms/ account	Avg. cost/ account
Residential	845	$1,079
Commercial	3,919	$4,866
Industrial	1,082,105	$1,194,968

Decatur Electricity Consumption

Like its natural gas counterpart, the majority of electricity consumption is from the industrial sector at 71%, followed by commercial, residential, and then municipal. Total consumption increased between 2007 and 2008, and then decreased in 2009; however it decreased from 2007 to 2009 in both the residential and commercial sectors. It should be noted that 2007 was a hot summer by comparison to 2008 and even 2009, which can explain the increase in electricity due to an increase in air conditioning use, and not necessarily different from the overall national trend that shows electricity consumption rising in these sectors.

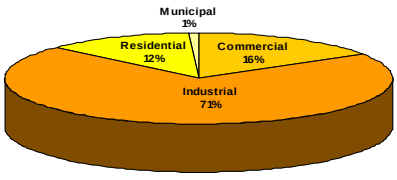
In the residential sector, electricity is consumed primarily in air conditioning, lighting, and electrically powered appliances. Telecommunications and network equipment, along with specialized technologies such as medical imaging advancements are driving growth in the commercial sector.[8] Both commercial and residential consumption is on the rise nationwide. Residential sector increases are driven by growth in consumer electronics and information technology equipment, as well as by growing home size and air conditioning use. Electricity is measured in kilowatt hours (kWh).

The table and image below show the complete picture of Decatur's electricity consumption:

Electricity Consumption by sector and year

Decatur Electricity Consumption, in kWh	2007	2008	2009
Residential	331,830,538	314,592,804	301,779,353
Commercial	423,152,177	419,371,271	400,126,169
Industrial	1,665,356,411	1,762,410,914	1,743,204,305
Municipal	23,149,926	23,208,344	19,206,193
Total Consumption, citywide	**2,443,499,758**	**2,519,583,333**	**2,464,316,020**

Decatur Electricity Consumption, 2009



[8] Energy Information Administration: "Miscellaneous Electricity Services in the Buildings Sector", AEO2007 http://www.eia.doe.gov/oiaf/aeo/otheranalysis/mesbs.html

Again, total consumption by sector may be somewhat overwhelming to your typical resident or business owner, but average annual consumption and costs per account are easier pieces of information to digest. To the right is the average annual consumption and costs for residential, commercial and industrial sectors, based on 2009 numbers.

Average Electricity Consumption/Cost, 2009

Sector	Avg. kWh/ account[1]	Avg. cost/ account[1]
Residential	8,335	$894
Commercial	78,073	$8,377
Industrial	102,541,430	$6,819,005

Electricity Pricing Option for Residential Customers

Related to energy consumption and costs, some Decatur residents are participating in Ameren Illinois Utilities' Power Smart Pricing (PSP) program, which is an hourly electricity pricing program for residential customers. Rather than being billed at the standard fixed residential rate, participants are given access to market prices for electricity that vary from hour to hour and day to day. Participants are encouraged to manage costs by taking simple actions to conserve energy during hours when market prices are higher.

Currently there are 562 Decatur households that have opted into this program. Since PSP launched in early 2007, participants have saved an average of 20% compared with what they would have paid on the standard fixed rate (based on billing results for December 2007 through December 2009).

Energy Consumption in City of Decatur Municipal Buildings

Municipal energy consumption is a very small part of Decatur's total energy consumption. However the city's sustainability planning efforts towards energy efficiency provides a clear cut example and learning opportunity for those who live and do business in Decatur. Total municipal consumption includes natural gas and electricity, with about 2/3 of electricity consumption due to electricity in buildings and the remaining 1/3 for street and highway lighting.

Municipal Energy Consumption by Year

Decatur	2007		2008		2009	
Total Consumption (in kBtu)	**20,914,489,774**		**20,570,868,332**		**19,836,661,360**	
Natural Gas (in therms)	273,465		289,375		261,657	
Electricity (in kWh)	23,149,926		23,208,344		19,206,193	
Buildings	12,815,792	55%	12,720,361	55%	12,496,427	65%
Street/Highway Lighting	10,334,134	45%	10,487,983	45%	6,709,766	35%

Converting therms and kWh into kBtu allow natural gas and electricity to be compared together and provide a number for total consumption. The conversion factor for therms is x100, and kWh, x3.412.

Taking a closer look at energy consumption in municipal buildings, city staff provided natural gas and electricity consumption data that was analyzed for time periods. This annualized data, combined with the square footage of each building allows us to assign each building an energy use intensity (EUI), measured in kbtu per square foot per year. By using this measurement, we can compare how much energy is used on a square foot basis. This is a metric that is comparable across buildings because usage is normalized by the size of a building. In general, looking at EUIs across the portfolio of municipal buildings can help identify the ones with the largest energy consumption per square foot to be targeted for retrofits and energy efficiency measures. Essentially, a low EUI is good – there is less energy being used per square foot. A high EUI is bad - there is more energy being used per square foot. However, EUIs are also relative to how the building is being used. While the EUI of the Water Treatment Plant is high (400s), this is expected given its function. In contrast, an EUI in the 130s for an office building like the Municipal Services Center is considered high. One should not

compare EUIs of municipal buildings with different functions, but rather compare to other types of similar buildings. Additionally, EUIs of the same building can be compared from year to year to help measure the success of any energy efficiency strategies that were implemented. Understanding and measuring EUIs can be a starting point to flag potential issues, target buildings for more in-depth audits, then identifying and implementing strategies for improving energy efficiency based on those audits.

City of Decatur owned building	Square Footage	Total kbtu 5/08 – 4/09	EUI, May 2008/April 2009	Total kbtu 5/09 – 4/10	EUI, May 2009/April 2010
Water Treatment Plant	89,665	44,152,130	**492**	42,753,943	**477**
Municipal Services Center	35,745	5,200,892	**145**	4,745,389	**133**
Civic Center	105,216	11,519,789	109	11,336,725	108
Transit	5,075	1,991,324	**392**	1,886,030	**372**
Library	Not provided	7,049,897	n/a	6,859,905	n/a
Firehouse #1	16,800	1,945,786	116	1,760,061	105
Firehouse #2	6,995	630,381	90	628,835	90
Firehouse #3	3,160	412,370	**130**	345,949	109
Firehouse #7	5,620	621,416	111	601,470	107

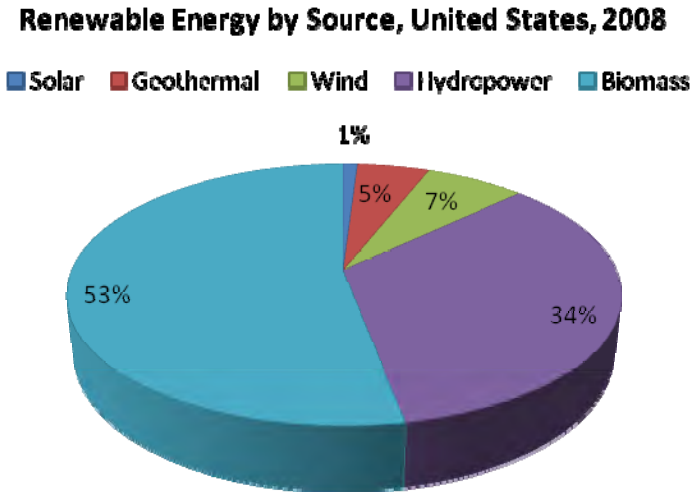
Note: Firehouses #4, #5 and #6 did not have complete data, so no EUI was calculated.
High EUI

Energy Efficiency in Buildings Baseline Indicators			
Baseline Indicator	**2010 Baseline**		**2020 Goal**
Residential average consumption per HH	845 therms	8,335 kWh	634 therms and 6,251 kwh
Commercial average consumption per HH	3,919 therms	78,073 kWh	3,527 therms and 70,266 kwh
Industrial average consumption per HH	1,082,105 therms	102,541,430 kWh	973,894 threms and 92,287,287 kwh
EUI for each municipal-owned building	See table Above		10% reduction
2030 Energy Forecast (growth in total consumption without any action taken)	See Table Below		See Table Below
			Note: All data is 2009

Energy Forecast Baseline Indicators						
	Residential		**Commercial**		**Industrial**	
	Electricity (kWh)	**Gas (therms)**	**Electricity (kWh)**	**Gas (therms)**	**Electricity (kWh)**	**Gas (therms)**
Baseline (2008 consumption)	314,592,804	26,260,360	419,371,271	10,920,436	1,762,410,914	82,270,329
Growth factor [1]	0.49%	-0.57%	1.20%	0.24%	0.44%	0.00%
Projected 2020 consumption	333,462,198	24,519,998	483,990,594	11,235,094	1,858,284,265	82,226,901
Projected 2030 consumption	350,048,425	23,158,134	545,383,666	11,504,223	1,942,150,866	82,190,728

b. Renewable Energy

What is renewable energy?



Recognizing the importance of clean local energy creation many communities have been investing in both large and small-scale renewable energy production. Renewable energy is energy that comes from natural resources such as sunlight, wind, rain, biofuels, tides, and geothermal heat, which can be naturally replenished. Renewable energy is an important energy source because the consumption of fossil fuels is directly related to rising greenhouse gas emissions and the beginning effects of climate change around the world. Over half of all renewable energy generated in the United States is for the production of electricity, followed next by the production of heat and steam for industrial processes. Renewable fuels are used for fueling cars and trucks, as well as to heat homes. Types of renewable energy most often used include solar, geothermal, wind, water (hydropower) and biomass. Briefly, these can be described as follows:

Solar: Energy that comes from the sun; used to generate electricity and for heating buildings.
Geothermal: Capturing heat from within the earth's core via steam or hot water in order to heat buildings or generate electricity.
Wind: Wind is air in motion caused by uneven heating over land and water; used to generate electricity.
Water: Also called hydropower, this is mechanical energy harnessed from the rate of flow in water; one of the oldest sources of energy; used to generate electricity.
Biomass: Sometimes called bioenergy, this is energy from organic materials (plants or animals) through burning or bio-gases like methane or ethanol, used to produce steam to make electricity, provide heat to buildings, or fuel for vehicles.

According to the Energy Information Administration, in 2008, biomass energy made up the largest percentage of renewable energy consumption, followed by hydropower, wind, geothermal and solar. Renewable energy consumption is expected to increase as the cost of oil and natural gas rise, coupled with financial incentives designed to increase renewable energy production.

Local Renewable Energy Options

In Decatur, the most viable options for renewable energy are in biomass, wind, and solar. In particular, growth in wind and solar energy production is expected to grow statewide as a result of groundbreaking legislation that set targets for renewable energy production by electric utilities. The Illinois Renewable Energy Standard adopted into law in 2007 sets incremental percentage goals for the percentage of electricity production from renewable sources, culminating in 25% renewable sources by 2025. 75% of that must come from wind energy, 6% from solar, and the remaining from other sources. It's worth noting that within this requirement, "the law prohibits renewable energy purchases from increasing electric rates more than half-a-percent over the previous year."[9] In 2009, the required percentage was 5%.

[9] Illinois Commerce Commission.

Bioenergy in Decatur

The Local Bioenergy Initiative[10] is a collaborative project led by the Agricultural Watershed Institute to begin growing and using perennial energy grasses in Central Illinois. According to the Agricultural Watershed Institute, "In the not-so-distant future, perennial energy grasses and crop residues may be used to make advanced liquid biofuels for transportation. With current technology, renewable biomass can be used to heat buildings and generate electricity."[11] Current participants include agencies, organizations and individuals.

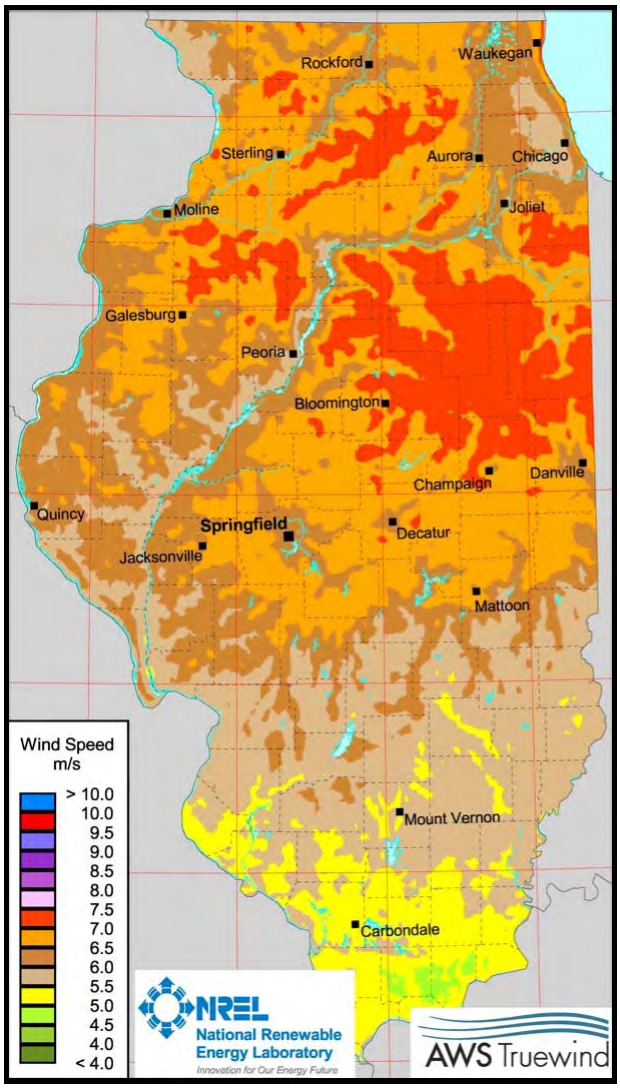
Wind Energy in/near Decatur

Illinois is experiencing major expansion in wind energy development because of the following reasons:

Strong wind resources: Illinois prairie winds have an average wind speeds in Illinois at 50m/s, according to the Department of Energy, with some of the highest winds in the central area of the state, as seen in the wind speed map to the right.

Supportive transmission infrastructure: Wind farms can tie into the existing infrastructure of high voltage transmission lines already in place across the state. Some states have much less developed infrastructure and thus wind energy requires a much larger investment. Further, much of northern Illinois is connected to the PJM electric grid, a regional transmission system that serves 13 states and 50 million customers. Of those 13 states, Illinois has the strongest winds, which makes Illinois wind farm projects a viable option for utilities, as well as major economic development opportunities for communities in Illinois, and in particular, Central Illinois.

Progressive legislation that supports wind energy: As mentioned above, the Illinois Renewable Energy Standard adopted in 2007 requires that 25% of all electricity come from renewable resources by the year 2025, with 75% of that renewable energy coming from wind as its source.



[10] http://www.agwatershed.org/PDFs/AWI_bioenergy_flyer.pdf

Wind Energy Baseline Information	
Energy Generation[12]	
Operating Wind Farms in Macon County	
Richland Community College	1 turbine; capacity: .1MW
Operating Wind Farms near Macon County	
Rail Splitter Wind Farm, Tazewell , Logan Counties	67 turbines; 100.5MW
Twin Groves Wind Farm, McLean County	240 turbines; 396MW
Gob Knob Wind Turbine, Montgomery County	1 turbine; .9MW
Proposed Wind Farms in Macon County	
Near Warrensburg, just south of the village, proposed by North Carolina-based Duke Energy	5100 acres
Near Warrensburg, just north of the village, proposed by Kentucky-based E. ON U.S.	
Policy	
Illinois Renewable Energy Standard	Requires 25% of all electricity generation be renewable by 2025; with 75% of that by wind energy
Macon County Wind Ordinance	Provides requirements for large wind farms (is not policy for small wind/household turbines, which can provide household electricity, as well as sell back power to the grid.)

Solar Energy in/near Decatur

In Illinois, the main option for solar power is through photovoltaic devices (PV) or solar cells, which turn sunlight directly into electricity. "Individual PV cells are grouped into panels and arrays of panels that can be used in a wide range of applications ranging from single small cells that charge calculator and watch batteries, to systems that power single homes, to large power plants covering many acres."[13] Solar energy can be captured at the individual household or building level, as well as in larger areas. Illinois will experience major solar expansion within the next few years, due to a combination of progressive legislation and funding resources.

Progressive legislation that supports solar energy: As mentioned above, the Illinois Renewable Energy Standard adopted in 2007 requires that 25% of all electricity come from renewable resources by the year 2025, with 6% of that renewable energy coming from wind as its source. However, in 2010, the Solar Ramp Up Bill requires that target to be met earlier-by 2015, with interim targets during that timeframe leading up to 2015.

In that same legislative session, Illinois passed the Homeowners' Solar Rights Act which "clarifies the rights of homeowners living in homeowner or condominium associations to put solar panels on the property and outlines a process for that to occur."[14]

Funding resources: Various state and other sources offer incentives to help offset the high cost of both solar and wind projects in Illinois, although funds are often depleted quickly. For example, the Illinois Department of Commerce and Economic Opportunity offers a solar and wind rebate program whose funds have already been depleted for the 2010 budget year.

[12] The Illinois Wind Energy Association
[13] Energy Information Administration, "Solar Basics."
[14] Illinois Solar Energy Association website.

Solar Energy Baseline Information	
Energy Generation	
Heating by Fuel Type, U.S. Census Bureau, 2000 (not available for 2006-2008 ACS)	
0 housing units	
Policy	
Illinois Renewable Energy Standard	Requires 25% of all electricity generation be renewable by 2025; with 6% of that by wind energy
Illinois Solar Ramp Up Bill	Ramps up solar requirement to 6% by 2015, with increasing goals leading up to 2015
Homeowners' Solar Rights Act	Allows homeowners in condominium and homeowner associations the right to put up solar panels on their property.

c. Transportation

Vehicles Miles Traveled

Vehicle Miles Traveled (VMT) is a measurement that analyzes the total number of miles traveled in a particular geography, including travel primarily attributed to households and businesses. VMT describes automobile use on a daily or annual basis and incorporates both the number of vehicle trips and the length of those trips. Due to various factors including urban sprawl, VMT has increased significantly for the past 25 years. From 1977 to 2001, the number of miles driven every year by Americans has risen by 151%, which accounts for an approximately five times faster growth than population during the same time period[15]. Understanding and measuring VMT is important because after energy consumption by buildings, the second highest emitter of greenhouse gas emissions in the United States is from transportation energy consumption[16]. Thus, reducing vehicle miles traveled should be an important sustainability goal when considering collective community-wide action. Below are the estimated VMT in Decatur in 2008:

Year 2008	Total On-Road VMT	Total HH VMT	Number of HH	VMT per HH
Decatur[17]	530.5 million	491.1 million	32,484	15,118
Macon County	955.6 million	884.2 million	46,166	19,152

It should be noted that VMT per household is simply an average and varies depending on different factors, including car ownership, public transportation access and convenience, land use and even income. Communities with more compact and mixed land uses, for example, make it easier for residents to travel shorter distances for everyday trips like work, school, or a visit to the grocery store. This explains why the average VMT per HH is typically lower in more urbanized areas. Households situated close to reliable public transit or near major employment centers may experience decreased annual VMT as well, because they do not drive their cars as much. Income can also affect VMT, as households with higher incomes may own multiple cars, which then increases their annual VMT from the average.

A further breakdown of VMT and fuel use by vehicle class was developed using fleet mix data estimates from the Lake Michigan Air Directors Consortium (LADCO); vehicle efficiency data from the Federal Highway

[15] Joseph B. White, Wall Street Journal. February 5, 2008
[16] 2010 U.S. Greenhouse Gas Inventory Report. United States Environmental Protection Agency, 2010.
[17] Sources: On-road VMT for Macon County, Illinois Department of Transportation travel statistics; Total On-road and HH VMT for Decatur scaled to 2008 from 2000 H+T Affordability Index

Administration (FHWA); and fuel sales and usage from the U.S. Department of Energy and the National Transit Database.

VMT by Vehicle Class and Fuel Type (Estimated)				
	Fleet %	**VMT by vehicle class**	**Avg MPG**	**Fuel Use by vehicle class (gallons)**
Gasoline Highway				
Passenger Cars	47.33	251,121,812	22.6	11,111,585
Light-Duty Trucks	43.29	229,653,115	18.1	12,688,017
Heavy Duty Vehicles	1.13	5,992,950	8.5	705,053
Motorcycles +	.51	2,715,029	56.5	48,054
Diesel Highway				
Passenger Cars	.08	410,756	22.6	18,175
Light-Duty Trucks	.17	911,184	18.1	50,342
Heavy-Duty Trucks	7.49	39,755,486	5.9	6,738,218
Total On-Road	**100**	**530,560,333**		**31,359,443**

Decatur Municipal Fleet

The City operates and maintains 298 vehicles, including automobiles, trucks, and other various public works and public safety vehicles. 68% of the fuel used by the City fleet is unleaded gasoline.

While, the City has been able to reduce the unleaded gas usage through increased use in diesel and ethanol, ongoing efforts to replace and reduce all fuel usage should be made. It should be noted that due to current technology constraints many of the City vehicles have to utilize specific fuel types (diesel or unleaded gas) and cannot utilize advanced fuels and technology such as ethanol and hybrid. However, as advanced fuels and technology improves to cover a great diversification of vehicles the City should adopt this technology.

City Fleet Vehicle Fuel Usage									
	Unleaded			**Diesel**			**Ethanol**		
	Gallons	**Percent Change**	**Price**	**Gallons**	**Percent Change**	**Price**	**Gallons**	**Percent Change**	**Price**
05/01/05-04/30/06	186,187		$359,865	89,910		$186,070	150		$139
05/01/06-04/30/07	183,781	-1.29%	$373,868	106,961	18.96%	$259,704	439	192.67%	$408
05/01/07-04/30/08	172,547	-6.11%	$352,299	91,835	-14.14%	$251,039	755	71.98%	$1,755
05/01/08-04/30/09	185,209	7.34	$451,535	91,341	-0.54%	$259,597	1,002	32.72%	$3,114

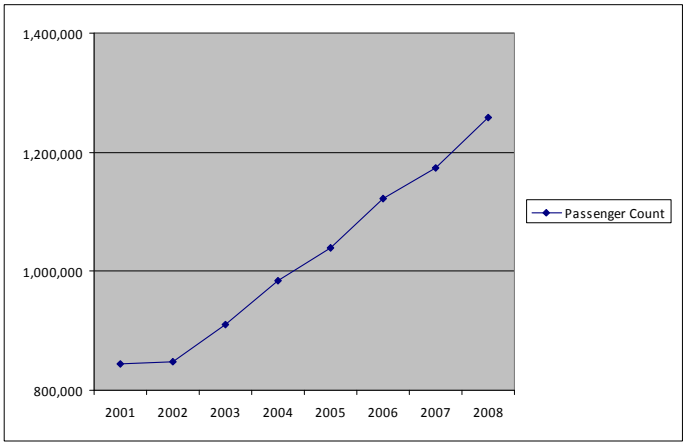
City Fleet Fuel Type, by Percent		
	Fiscal Year 2008/09	**Percent**
Unleaded, gallons	185,209	66%
Diesel, gallons	91,341	33%
Ethanol, gallons	1,002	<.5%
Total gallons	**277,552**	

Bus Ridership

The City operates 15 fixed bus routes, which offer access to commercial, institutional, and employment centers. Locations accessible from the Decatur Public Transit System include Hickory Point Mall, Wal-Mart, Brettwood Village Shopping Center, St. Marys Hospital, Decatur Memorial Hospital, Downtown Decatur, Decatur Conference Center, ADM Corporate Offices, Millikin University, Caterpillar, Richland Community College, Senior Center, South Shores, Municipal Airport, and Route 51. These 15 routes cover a significant portion of the city and offer a high level of accessibility. According to DUATS 80% of the MPA population lives within ¾ miles (approximate walking distance to a transit stop) of a fixed route and 76% of the total employment is within ¾ of a fixed route. In addition, with a $1.00 price for adult fare, discounted ridership for disabled passengers and youth, and free ridership for seniors, price should not be a limiting factor to use. As a result of controlled pricing and accessible routes, transit ridership has seen significant increases in the past decade. Increased transit use and accessibility not only provides obvious environmental benefits, but also leads to a more sustainable community by providing economical, fiscal, social, and equality benefits.

Existing DPTS Service Area Coverage		
Residential Access	MPA Estimated Year 2000 Population	108,534
	Population with ¾ Mile Buffer of Fixed Routes	86,795
	Percent of Total Population within ¾ Mile Buffer	80.0%
Employment Access	MPA Estimated Year 2000 Employment	57,664
	Employment with ¾ Mile Buffer of Fixed Routes	43,825
	Percent of Total Employment within ¾ Mile Buffer	76.0%
Source: DUATS		

Bus Ridership 2001-2008



Source: DUATS

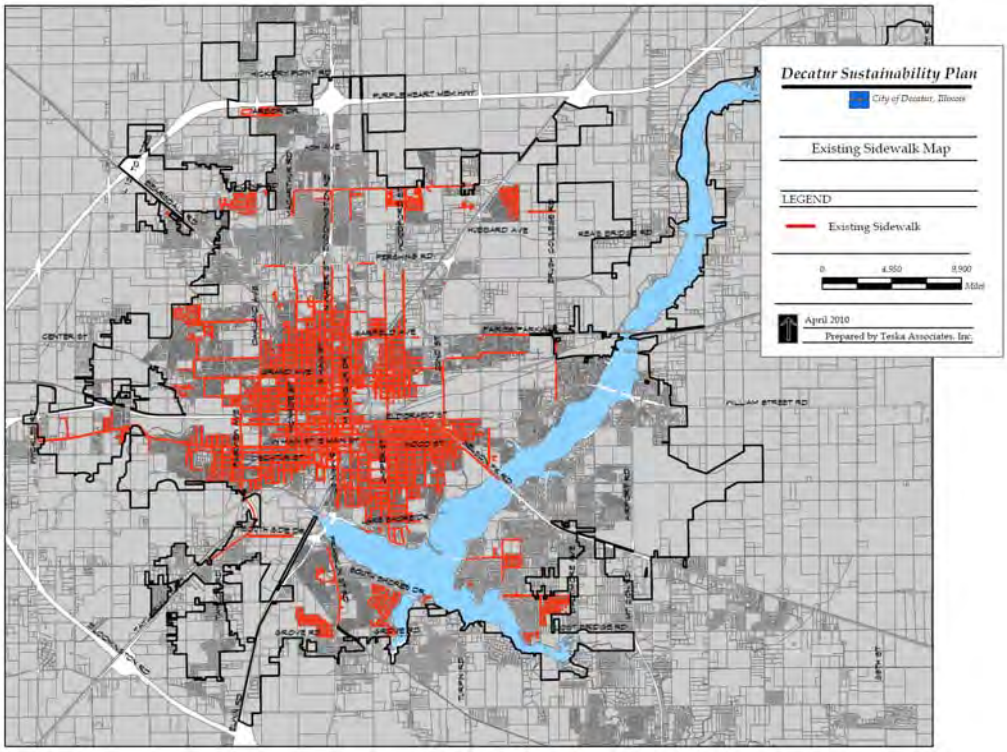
Sidewalks

As part of DUATS Transportation Improvement Plan for 2010-2013, a number of streets within Decatur have been identified for improvements including restoration and repair, streetscape, sidewalk installation, improved railroad crossings, and traffic signal modernization.

In addition, a DUATS long range planning goal is to increase the Safe Routes to School Program. The Safe Routes to School is a program focused on enabling and encouraging children to walk and bike to and from school. Currently, the program was initiated with William Harris Elementary School in Decatur District #61. DUATS Staff is exploring the expansion of the Safe Routes to School program to include additional schools in multiple school districts.

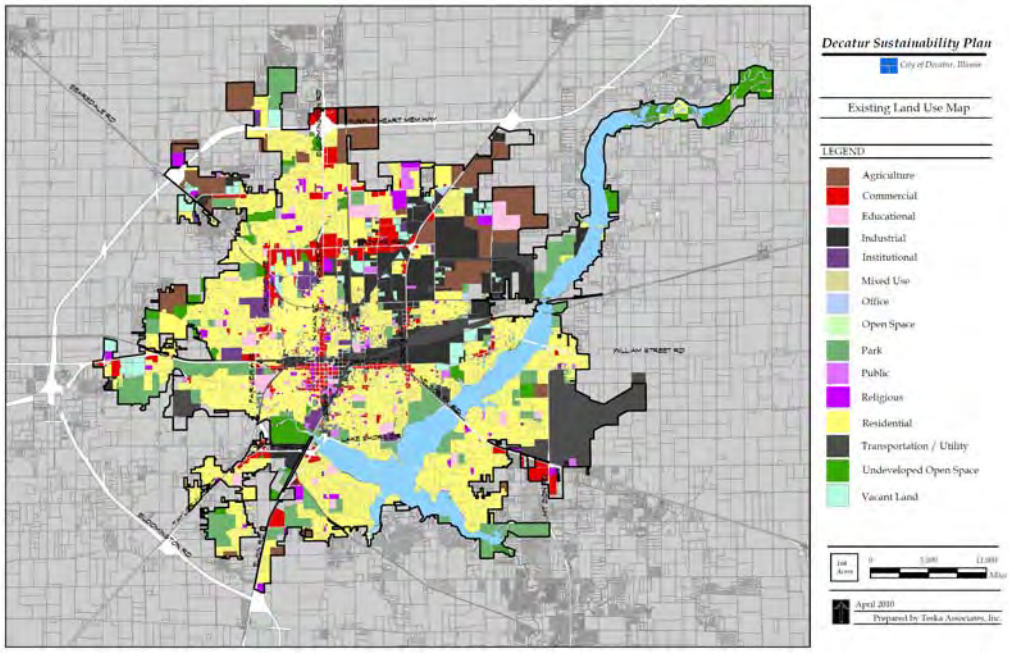
A requirement of safe routes to school, as well just pedestrian friendly environments, is the provision of sidewalks. Currently, 39% of in residential areas of the city have sidewalks. As part of the subdivision ordinance, sidewalks are required for all new subdivisions. As can be seen on the sidewalk map, most of the sidewalks (indicated with a red line) are located in residential neighborhoods in proximity to the centralized city. For portions of the city that are more rural, such as those by residential neighborhoods in proximity to Lake Decatur and in north Decatur, mostly lack sidewalks. In addition, sidewalks are not provided along some key commercial corridors like Pershing Road.

Pedestrian friendly environments not only encourage physical exercise, they also allow people to use non-motorized means to seek goods and services. As such, sidewalks are a universal requirement of creating a pedestrian friendly environment.



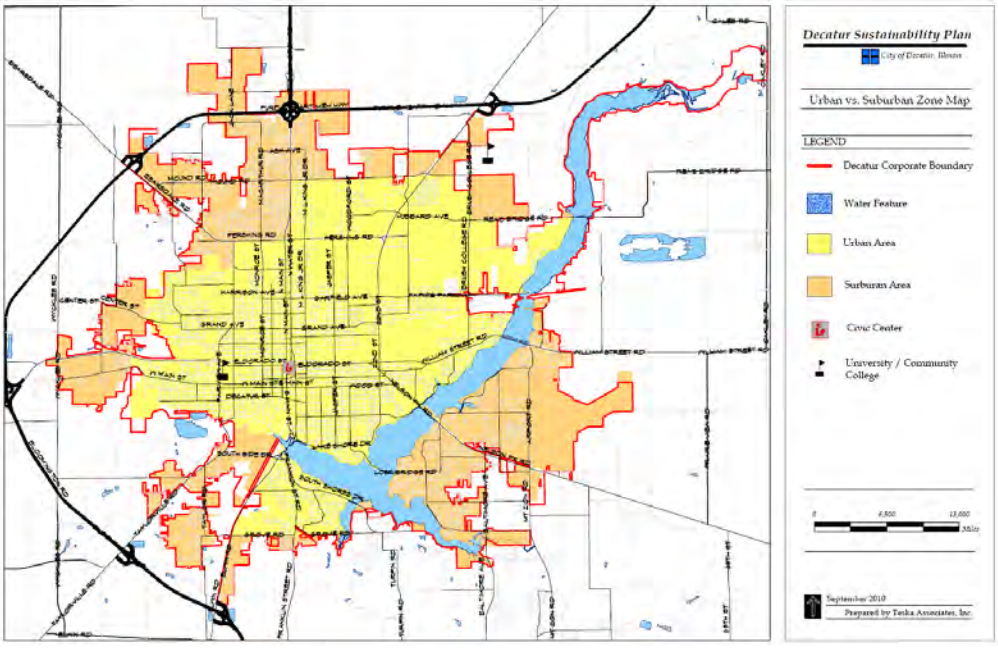
Transportation Baseline Indicators		
Baseline Indicator	**2010 Baseline**	**2020 Goal**
VMT traveled per household Decatur	15,118 VMT per household	14,362 VMT per household
Total ridership per population	9.7 rides per population	11 rides per population
% of population within 3/4 mile of bus route	80.0%	90%
% of employment within 3/4 mile of route	76.0%	83%
% of streets with sidewalks	37.8%	45%
% of streets with sidewalks in residential areas	39.29%	45%
Gallons used for City vehicle fleets	185,209 Unleaded Gallons 91,341 Diesel Gallons 1,002 Ethanol Gallons	10% reduction: 166,688 Unleaded Gallons 82,207 Diesel Gallons 902 Ethanol Gallons
% of fuel mix for City vehicle fleets	66.7 % Unleaded 32.9 % Diesel 0.36 % Ethanol	Unleaded: 62% Diesel: 28% Biofuels: 10%
Total fuel usage within Decatur	*31,359,443 gallons*	*23,519,582 gallons*

3. Land



Due to various factors, recent development patterns have pushed single-family away from the urban core and towards to periphery and outside of the Decatur city limits, including to the surrounding communities of Mt. Zion and Forsyth. In addition, the Decatur land use pattern is the conventional separation of uses (i.e. residential separated from industrial separated from commercial). For example, over 48% of the total acreage in Decatur is used solely for residential. There have been recent arguments and evidence that suggest that sprawl development and land use decisions that have been based on development policies that separate residential areas from community functions and services, including employment locations, shopping and public services; and the promotion of low-density growth catered to automobile access, are proving to create unsustainable communities.

a) Urban Density Zone



Urban Infill and Revitalization

Unplanned and unmanaged development outside of the urban core resulting in low-density growth can cause numerous economic and environmental costs. Conversely, infill development and revitalization decreases these costs by reducing infrastructure requirements and costs, reducing Vehicle Miles Traveled, reducing development pressure of agriculture land and environmentally sensitive land, increasing pedestrian and transit options, and providing economic development opportunities.

Between 2001 and 2009 there were 133 permits for new single-family residential buildings constructed in the suburban area (as outline in the Macon County and Decatur Comprehensive Plan) and 84 permits for new single-family residential buildings in the urban area. Additionally, there were 346 significant additions/repairs to existing single-family structures in suburban areas and 317 significant additions/repairs to existing single-family structures in urban areas. Significant additions include those thats value was over $10,000 in work. It should be noted that there should be more repairs for urban housing because 1). 75% of the housing units are located in the urban area, and 2). Housing in urban areas is older, and thus require more significant additions/repairs. A lack of repairs in the urban area as compared to the significantly greater percentage households signifies a possible lack of investment in the housing stock in the urban area as compared to the suburban.

Historic Preservation and Adaptive Reuse

Historic preservation is the process of preserving part of a community, from an individual building or part of a building to a whole neighborhood, because of its historical importance. Adaptive reuse is the conversion of obsolescent or historic buildings from their original or most recent use to a new use, thus decreasing the need to construct a new building. However, utilized together, historic preservation and adaptive reuse promote the conservation and improvements of our existing built resources, and reduce environmental degradation. The construction, operation and demolition of buildings alone account for 48% the United States' greenhouse gas emissions[18]. The two principle benefits of historic preservation and adaptive reuse are:

- The renewed and continued use of an existing building stock reduces the demand for energy and other natural resources, decreases the amount of demolition and construction waste deposited in landfills, and conserves embodied energy (the amount of energy originally expended to create extant structures).
- Reinvestment in existing neighborhoods reduces the need for additional materials and energy retaliated the installation of new infrastructure, such as roads, water and sewer lines. Many existing and older, historic structures tend to be centrally located, dense, walkable, and are often bus accessible. These locational features reduce automobile dependence and allow for greater mobility.

"The greenest building is the one that's already built."
-Carl Elefante, Architect

Currently, Decatur has 9 structures on the national registry of landmarked properties, 2,088 total parcels in three national historic districts, and 332 total parcels in local historic districts.

[18] National Trust for Historic Preservation

Urban Density Zone Baseline Indicators		
Baseline Indicator	**2010 Baseline**	**2020 Baseline Goal**
Permits for significant additions / rehabilitation / repairs * within urban vs. suburban zone (2001-2009) *Over $10,000 in work value	Urban: 317 (48%) Suburban: 346 (52%)	Urban: 65% Suburban: 35%
New single-family construction within urban vs. suburban zone. Based on Urban/Suburban zone map.	Urban: 84 (39%) Suburban: 133 (61%) (Based on 2001-2009 data)	Urban: 50% Suburban: 50%
% of housing units in urban vs. suburban zone.	Households in Urban: 75% Households in Suburban: 25%	Urban: 75% Suburban: 25%
Square feet of street pavement based on number of housing units.	71,220,600 sf / 32,484 households[19] = 2,192 sf per household	2,000 sf per household
Number of landmarked properties.	9 structures on national registry of historic properties 2,088 parcels total in three national historic districts 332 parcels total in two local historic districts	12 structures on national registry of historic properties 2,500 parcels total in national historic districts 1,000 parcels total in local historic districts

b. Green Building, Sustainable Neighborhood Design and Practices

Low Impact Development and Design: Naturalized Stormwater Management and Conservation Subdivision: Promotion of Common Open Space

Low impact development (LID) is a land planning and engineering design approach that utilizes various techniques to naturally manage stormwater runoff. LID emphasizes the use of on-site natural features to improve storm water quality and manage quantity. The primary concept behind LID is that stormwater runoff is treated as a resource, rather than a waste product, by utilizing uniformly distributed, decentralized techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source. The current stormwater management ordinance does not require the use of techniques to naturally manage stormwater runoff, and thus there are no existing developments that incorporate low impact design or use naturalized stormwater management (see stormwater management section above).

Conservation Design is a controlled-growth land use development technique that promotes the developable use of land in such a manner that takes into account the natural landscape and ecology of a development site while maintaining the site's most valuable features and functions. Conservation Design is a density-neutral "natural environment" first development technique. Principles of conservation design include the design of development to compliment natural features, viewsheds, and access to environmental resources; smaller lots in exchange for larger common open spaces; natural stormwater management (LID); use of native landscaping; lower infrastructure needs, and use of shorter, narrower streets. Due to various public perception and economic factors, there have been no developments in Decatur that incorporate conservation design.

[19] From 2008 Census Data: American Fact Finder Occupied Housing Units

Green Building (LEED-Certified Buildings).

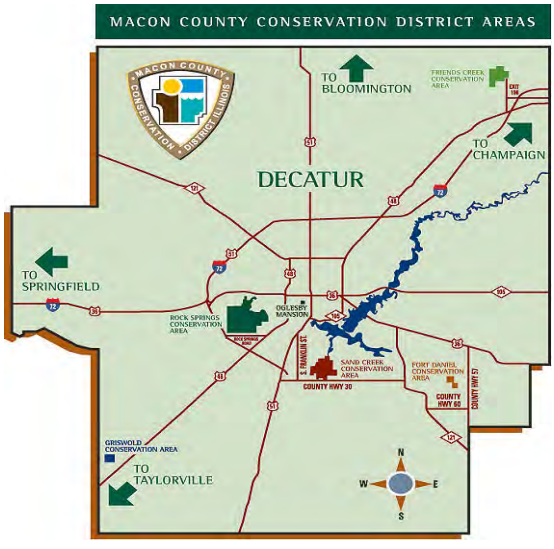
The tenant of green building is the practice of creating structures and using construction practices that are environmentally responsible and resource efficient. Green building focuses on the entire life-cycle of a building from siting to design, construction, operation, and ongoing maintenance. The primary objective of green construction is to mitigate the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, materials, and other resources
- Reducing waste, pollution and environmental degradation[20]
- Protecting occupant health and improving employee productivity

The most commonly accepted "green building" certification is the through the United States Green Building's "Leadership in Energy and Environmental Design (LEED)" program. LEED is a nationally accepted benchmark for design, construction, and operation of high performance green buildings. Currently, the only LEED-Certified building in Decatur is Scovill Hall, on the campus of Millikin University; however there are four other buildings that are currently seeking LEED certification.

Park and Open Space Accessibility

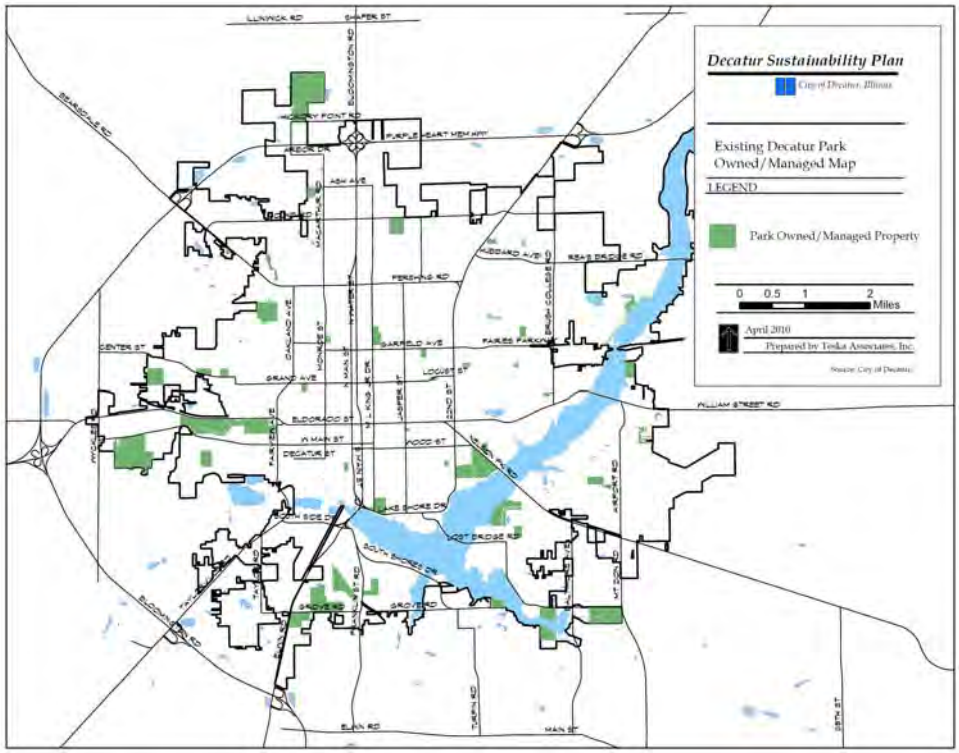
In the past couple of decades there has been an increased awareness in the value of parks and open space. Governments, conservation, and civic groups around the country have created new parks, revitalized run-down parks, built greenways along rivers, increased trails, converted abandoned railroad lines to trails, and planted community gardens in vacant lots. Parks and open space improve our physical and psychological health, strengthen our communities, and make our cities and neighborhoods more attractive places to live and work[21]. The environmental, recreational, and economic benefits of parks and open space towards sustainability are well documented. Parks and open space provide natural habitats, improve air and water quality, reduce ambient air temperatures, assist in stormwater management, provide recreational and exercise opportunities, increase property values, contribute to economic revitalization, and increase quality of life for residents and visitors.



Source: Macon County Conservation District.

Currently the Decatur Park District owns or maintains 1,921 acres and the Macon County Conservation District owns or maintains approximately 3,200 acres.

[20] United States Environmental Protection Agency (http://www.epa.gov/greenbuilding/pubs/about.htm)
[21] The Benefits of Parks-The Trust for Public Land



Sustainable Neighborhood Design and Practices Baseline Indicators		
Baseline Indicator	**2010 Baseline**	**2020 Baseline Goal**
Acreage of single-family development that utilize Conservation Design practices	0 acres	25% of new single family developments will utilize Conservation Design practices
Acreage of development that utilize low impact design practices or utilize naturalized stormwater systems	0 acres	Achieve at least 50% of new development to be designed with BMPs
Number of LEED certified buildings	1 Certified (Scovill Hall: Gold) 4 Registered (registered however haven't received certification yet) (BLDD Architects Decatur Office Remodel; Center for Sustainability Innovation: Richland Community College; Jack C. Dolson Hall; and Perkinson School of Music)	10 certified LEED Buildings
Square feet of naturalized landscaping on public property	0 sq/ft	100,000 sq/ft
Acres of park district open space.	1,921.4 acres (from Park District)	Make existing land more accessible.
Acres conservation district open space.	3,200 acres (from Conservation District)	Create greater connections between open space

Sustainable, Urban/Neighborhood and Community Supported Agriculture

c. Sustainable Agriculture

Sustainable agriculture integrates the three main goals of 1). environmental stewardship, 2). farm profitability, and 3). prosperous farming communities. Sustainable agriculture was promoted in the 1990 farm bill. Sustainable agriculture puts into practice various farming techniques that conserve the environment by minimizing soil erosion and nutrient depletion, conserving and reducing water consumption, preserving water sources, safeguarding species habitat, and conserving other natural resources. Examples of sustainable agriculture practices include no-till farming, crop rotation, use of stormwater Best Management Practices, and prevention of runoff or leaching of fertilizers and pesticides[22]. In addition to implementing these various environmentally-friendly farming techniques and strategies, sustainable agriculture requires a commitment to changing public policies, economic institutions, and social values.

Urban/neighborhood Agriculture

Urban/neighborhood agriculture is the practice of cultivating, processing and distributing food in, or around an urban area. Urban agriculture can take place in the backyards, rooftop containers, public open spaces, community gardens, greenhouses, and commercial farms on the periphery. Urban agriculture advances environmental, social, and economic opportunities by providing a direct interaction between consumers and growers, use of residents as workers, use of typical urban waste products (organic waste as compost and stormwater for irrigation), greater social interaction through leisure and recreational opportunities, and a positive impact upon urban environmental factors. Currently, there are 0 acres of urban/neighborhood agriculture in Decatur.

Community Supported Agriculture

Community Supported Agriculture (CSA) is a community of individuals who pledge support to a farm operation so that consumers provide mutual support and sharing the risks and benefits of food production. By making a financial commitment to a farm, people become "members" (or "shareholders," or "subscribers") of the CSA. By buying shares, CSA establish a direct relationship between the food buying public and a farm.

[22] America.gov: Glossary of Environmental Terms.

Sustainable, Urban/Neighborhood and Community Supported Agriculture Baseline Indicators			
Baseline Indicator		**2010 Baseline**	**2020 Goal**
Square footage dedicated urban / neighborhood agriculture with Decatur		0 sq/ft	200,000 sq/ft
Number of Macon County agriculture acres using alternative crops		5,000 acres	15,000
Acreage of community supported agriculture in Macon County		Less than 20 acres	300 acres
Bioenergy	Number of acres of perennial energy grasses	40 acres	10,000 acres (75,000 tons of energy)
	Quantity of perennial energy grasses consumed in Decatur	0 tons of energy	25,000 tons of energy
	Quantity of sustainable perennial energy grasses exported beyond Decatur	0 tons of energy	50,000 tons of energy

4. Waste/Recycling

Every day the average American generates approximately 4.5 pounds of solid trash. This accumulates to over 200 million tons of garbage nationwide per year.[23] Reducing waste, reusing, and recycling will decrease the amount of garbage that goes to landfills, as well as save space, preserve natural resources, conserve energy, and reduce pollution.

Some reminders of the significant impact recycling can have, include:

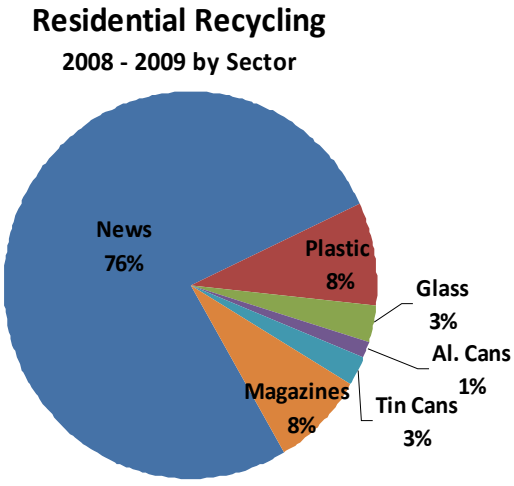
- If all morning newspapers read around the country were recycled 41,000 trees would be saved daily.
- If 100,000 people stopped their junk mail than 150,000 trees could be saved annually.
- By recycling 1 ton of paper you save:
  - 17 trees
  - 6,953 gallons of water
  - 463 gallons of oil
  - 587 pounds of air pollution
  - 3.06 cubic yards of landfill space
  - 4,077 kilowatts of energy
- Recycling paper uses 60% less energy than manufacturing from raw materials.
- Recycling 1 glass jar saves enough energy to keep a light bulb lit for 4 hours.
- Recycling aluminum takes 95% less energy than making it from virgin materials.[24]

As Decatur works towards a more sustainable future it is important to measure the waste that is produced and how much is recycled. Understanding these numbers will help Decatur understand their impacts, establish baselines, develop benchmarks, and calculate successes.

a. Recycling (Decatur Recycling Program, municipal operations, and Macon County recycling)

Decatur's Recycling Program

Currently, Decatur's recycling program consists of residential curb side recycling service, paid for through the resident's monthly water bill. Suburban Disposal and Recycling is the contractor for this program. This program serves single family homes; pick up is once a week and material must be properly prepared for contractor to pick up.



Decatur's Recycling Data

[23] http://library.thinkquest.org/06aug/00442/wu3rs.htm

[24] http://www.sacomaine.org/departments/publicworks/recyclingfacts.shtml

Decatur's most recycled product by weight is newspaper, followed by plastic, then magazines. This correlates with national data which includes newspaper, as well as, corrugated boxes, office paper, glass bottles and lead acid batteries. The table below looks at annual recycling data by weight for the past 6 years separated by materials.

Decatur Recycling: Schools, Commercial and Industrial *Pick up by Midwest Fiber*	
2009, 4th Quarter	**2010, 1st Quarter**
1107.77 tons	1128.88 tons
**Number of customers: 204* *Note: Midwest Fiber recently changed its recordkeeping systems. Past information is not available, but moving forward, quarterly information can be made available at the request of the City of Decatur.*	

Source: Paradise

Decatur Residential Recycling by Weight						
	2003-04	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**
	Pounds					
News	2,151,158	2,154,557	2,143,010	2,131,722	2,067,872	2,187,687
Plastic	225,549	225,095	224,152	222,036	210,346	243,393
Glass	96,065	97,197	96,154	93,430	84,792	85,136
Al. Cans	37,418	37,295	38,662	38,993	38,059	41,480
Tin Cans	79,505	77,980	77,735	77,766	73,583	77,157
Magazines	224,784	223,660	219,789	222,012	216,068	227,066
Total	**2,814,479**	**2,815,784**	**2,799,502**	**2,785,959**	**2,690,720**	**2,861,919**

Participation rates for recycling in Decatur decreased from the early 2000s to 2008; however, there was a clear increase from 2008 to 2009. Compared to national data, Decatur's participation rates are about 10 percent lower than average.

Decatur Recycling Participation								
	2002	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**
Annual average number of total stops	16,934	16,519	16,744	16,609	16,459	16,667	16,765	17,589
Annual average number of pick up days	21	21	22	22	22	22	22	22
Annual average number of stops/day	795	781	764	769	765	768	769	809
Participation rate (%)	**14.38**	**14.14**	**13.84**	**13.93**	**13.86**	**13.92**	**13.94**	**15.10**
Note: National participation rate is approximately 24.3%								

As mentioned above, Decatur's current residential curbside recycling program only includes single family, not multifamily, commercial, institutional, or industrial. For recycling services in these sectors, Midwest Fiber

provides recycling pick-up; however, this is usually on a call-in basis. The table below states the number of tons collected in the 4th quarter of 2009 and the 1st quarter of 2010.

Macon County also has designated recycling drop off sites that Decatur residents and business owners may utilize; this is described in further detail in a subsequent section regarding Macon County recycling services.

Single Stream Recycling

Decatur has plans to change to single stream recycling in the near future. Single stream recycling is typically preferred largely due to the simplicity, which has proven to substantially increase participation. The common concern is the increase in processing costs; however, this is typically outweighed by the benefits of single stream recycling, which include:

- Increases ease and convenience of recycling so participation increases & more materials are diverted from landfills;
- More efficient collection for haulers;
- Decreases collection cost, which is the most costly part of recycling programs (but can increase processing costs);
- Decreases pollution from collection vehicles;
- Increases cleanliness because of the decrease of loose material blowing;
- Provides one container with hinged lids that keep recyclables dry and contained;
- Reduces risks to workers, especially when the system is automated;
- Wider range of workers qualifying for the automated collection jobs; and
- Opportunity to add new materials to collection systems, especially green waste.

Recycling – Municipal Operations

The City of Decatur does not currently have a set of green procurement policies that outline purchasing requirements by City departments and divisions. However, all copier machines and printers are stocked with 30% post consumer waste recycled paper

Macon County Recycling Services

Decatur also has access to Macon County services and resources. The Macon County Environmental Management, Composting & Recycling Programs include:

- Recycling drop off trailers in 9 communities:
- Pilot program for back yard composts that includes an educational component (via "Upcycle");
- Various recycling educational programs in Macon County schools including Earth Day recycling contests;
- Recycling consultation for organizations and groups regarding set up for a recycling program, becoming more sustainable, and reducing the organization's carbon footprint;
- Small grants to companies and organizations to begin a recycling or compost program, or expand their current efforts;
- Provide ready-reference information to residents in response to recycling items beyond their curbside collections;
- Annual recycling guide; and
- The Macon County Environmental Management website, which provides information on how to recycle specific items.

Yard and Food Waste

Yard and food waste consists of unwanted yard debris such as leaves, grass, and plant trimmings and unwanted food scraps. Composting of these materials not only reduces the amount of waste taken to landfills; but also provides soil that can be used in local green spaces, parks, and gardens. Several cities around the country do not allow yard and food waste in the garbage; therefore service to collect these material is required unless one compost's at home.

Decatur currently licenses haulers to collect and dispose of yard/landscape waste (does not include food waste) from residents for a monthly fee, which includes unlimited weekly collection. However, between January 1 and March 31 collection of yard waste is only provided upon request. Acceptable materials include limbs and branches and grass clippings; specific policies are listed on the Decatur website under yard waste management. Collected materials are taken to Decatur-Macon County Composting Facility. Yard waste can also be dropped off at this facility as well, but there is a dumping fee based upon size of the load.

The table below presents yard waste data for the Decatur- Macon County Composting Facilities, information was provided by Macon County Environmental Management Department. Much if not all of the incoming material to Decatur Composting was from Macon County Composting Facility.

Yard Waste Data, 2006 - 2009

	2006			2007			2008			2009		
	Received		Sold/Used	Received		Sold/Used	Received		Sold/Used	Received		Sold/ Used
	Tons	Cu. Yds	Cu. Yds	Tons	Cu. Yds	Cu. Yds	Tons	Cu. Yds	Cu. Yds	Tons	Cu. Yds	Cu. Yds
Macon County Composting Facility	9,405	38,517	36,110	N/A	N/A	N/A	6,863	2,991	18,760	6,180	23,800	7,195
Decatur Composting	327	N/A	4,540	970	N/A	3,345	1,212	N/A	600	1,392	N/A	3,200

Regional Network for Recycling

Regional networks provide additional opportunities to keep unwanted items out of landfill and into the hands of someone else (e.g. an individual, a business, a school) who will use them. Networks can be informal, like the membership-based "Freecycle" that connects individuals with unwanted items and allows members to post their items online, or something more formal, like a connected network of industries and businesses that may rely on the flow of used items. For example, Global Recycling Network connects industries and businesses with an assortment of goods, including wood pallets, chemicals, and automotive parts to name just a few.

In Decatur, Freecycle exists and currently has 1,258 members. Surrounding similar-sized communities also engaged in the Freecycle network include Champaign (4,130 members) and Springfield (3,419 members).

Waste/Recycling Baseline Indicators		
Baseline Indicator	**2010 Baseline**	**2020 Goal**
Single-family residential recycling participation rate	15.1% (2009)	30%
Total recycled weight for single family (in tons)	1,430.96 (2008-09)	3,148 tons
Total recycled weight (in tons) picked up by Midwest Fiber for schools, commercial, and industrial	4,515.52 (estimated tons)	9,030 tons
Total yard waste	Tons: 1,392 Cu. Yards (solid/used): 3,200	
Solid waste (tons) going to landfills versus recycling		25% reduction in waste going to landfills
% of total Macon County waste that was recycled	52.803% (2009)	

Introduction

Water supply and use is at the center of Decatur's economy. Decatur would not have developed as a global center for agribusiness had it not been for leaders that set a vision and a supportive citizenry that made Lake Decatur possible. Over the years, the importance of water supply has grown, evidenced by major projects to dredge Lake Decatur and the creation of the Lake Decatur Partnership. Fundamental to a sustainable Decatur is a sustainable water supply that is designed to withstand drought conditions. Unlike many parts of Illinois, Decatur can not depend on a hundred year supply of water through a deep aquifer or access to the Great Lakes water supply. Decatur has more near-term challenges. Small actions, or lack of actions, can have a tremendous impact on day-to-day life and prosperity. How Decatur secures and expands its water supply can have repercussions and long-term consequences on the environment in the region. Going forward, expansion of water supply is vitally important for the future of the community. Planning will entail cooperation among public and private sectors to ensure adequate supply for generations to come.

With Lake Decatur at the center of agriculture, business, and recreation, it is also significant that people can see the water they drink. As such it is essential to properly manage stormwater runoff. Proper stormwater management ensures that we take care of our land in order to reduce runoff and silt that is impacting Lake Decatur and causing the need for an on-going dredging and nitrate removal processes, as well as leading to frequent flooding in some of our neighborhoods.

Lastly, Decatur should plan for proper disposal and reuse of wastewater. Wastewater should be thought of as another viable source of water that can reduce the total water supply needed by Decatur and nearby communities.

Water supply, stormwater, and wastewater are all a part of a seamless system of the water cycle. We have therefore set out a holistic set of strategies to most efficiently improve the supply, management, and quality of our water.

2030 Goals

- **The Decatur region will be served with a sustainable water supply to meet current and future needs.**

  We will expand the public water supply to meet current and future needs, while promoting more efficient use of water through reuse and conservation. We will work with industrial users to ensure that water continues to be used and reused efficiently. In addition, we will encourage a 25% reduction in daily water consumption at the household level. Currently, the average single family water use per day is currently 179 gallons, with a 25% goal reduction to 134 gallons by 2030. A 25% reduction in per capita water consumption at the household level is possible through water conservation efforts such as water-efficient fixtures, landscape practices, and consumer behavior.

- **Best Management Practices (BMPs) will be utilized in 50% of new development by 2030 to filter stormwater and reduce runoff.**

  In order to preserve surface water quality, reducing stormwater run-off to Lake Decatur, the Sangamon River, and its tributaries is a high priority. Through the implementation of Best Management Practices (BMP) and utilization of naturalized and green infrastructure, new development can reduce stormwater runoff and increase infiltration through low-cost, natural techniques.

Key Water 2020 Goals, Strategies, and Projects/Actions

GOAL 1: ENSURE THAT DECATUR HAS AN ADEQUATE WATER SUPPLY TO ALLOW FOR BOTH POPULATION GROWTH AND ECONOMIC DEVELOPMENT.

A sustainable water supply is at the center of a healthy Decatur – economically, socially, and environmentally. Actions need to be taken in the very short term to ensure that Decatur is prepared. A multi-year drought could have devastating repercussions for Decatur; however its impact can be limited to foresighted planning and execution.

STRATEGY 1.1: IMPROVE DROUGHT PREPAREDNESS

Projects/Actions

1.1.1 Develop Drought Preparedness Plan

In the immediate term, Decatur is working with the State Water Survey to draft a detailed drought preparedness plan. The purpose of the updated plan is to be ready at any moment to deal with a drought. In addition, the

City is working with large users and putting together a plan that will involve all sectors of Decatur to ensure that everyone is prepared including staged elements in the event of drought conditions impending on the region.

STRATEGY 1.2: EXPAND PUBLIC WATER SUPPLY TO PROVIDE A SUSTAINABLE SOURCE FOR THE FUTURE.

Immediate actions need to be taken to expand the long-term supply of water for Decatur and environs. A number of studies have determined the best options, itemized the costs, and recommended actions. The studies have concluded that Decatur and the environs need approximately an additional 10,000 acre feet of water, nearly a 50% increased capacity of the existing 22,000 acre feet of water available. There are three key projects that should all be implemented in order to provide the necessary water supply.

Projects/Actions

1.2.1 Develop the use of shallow aquifers

While Decatur has an emergency back-up supply through the Mahomet Aquifer via the Sangamon River, the distance and cost makes it impractical as a significant long-term source of water.

Decatur can take advantage of shallow aquifers in the immediate environs of Decatur that can efficiently be used and provide water to customers. The use of shallow aquifers needs to be studied, planned for, and managed carefully as not to deplete other water supplies, but it can be a dependable supply of water as a supplement to surface water.

1.2.2 Work with ADM on water supply enhancement

ADM's continued success and ability to expand depends on having a sufficient water supply. As such, ADM has a current proposal to enhance water supply that needs to move to the next stage of implementation. ADM already efficiently uses water and reuses its water several times in many of its operations. Expanding capacity in partnership with ADM will not only supply needed water for production purposes, but ensure that industrial needs do not impact the public water supply needs.

1.2.3 Proceed with plans for Lake Tokorozawa.

An additional source of water is to utilize water from Lake Tokorozawa. Under drought conditions, the City utilized water from the private landowners. Lake Tokorozawa could be an important source of water on an on-going basis for the City.

Lake Tokorozawa
Courtesy of Homer L. Chastain & Associates, LLP.

STRATEGY 1.3: MAINTAIN CAPACITY AND QUALITY OF LAKE DECATUR AND ITS WATERSHED.

Projects/Actions

1.3.1 Reduce silt and continue to dredge Lake Decatur

Maintaining the capacity of Lake Decatur is extremely important not only to ensure adequate storage, but also to protect the quality of the water. The City recently privatized its dredging operations to speed up the project and save funds. It should continue to fund its dredging program, as well as participate in educational programs and stormwater regulation to reduce the flow of silt into the Lake from agricultural and urban land uses.

1.3.2 Continue to strengthen the city-farm partnership for sustainable and innovative watershed management to protect Lake Decatur.

Work with property owners and other stakeholders to implement the upper and lower Sangamon Watershed plan.

1.3.3 Ensure monitoring of Lake Decatur and tributaries.

Ensure consistent, on-going monitoring of Lake Decatur, Sangamon River, and its tributaries.

STRATEGY 1.4 PROMOTE EFFICIENT USE OF WATER SUPPLY

Projects/Actions

1.4.1 Continue to invest in reducing water main leakage.

Water main leakage can be a major loss of water supply. Preventing leakage by a continuous maintenance program is a significant method to conserve water, which will reduce the growing demand for water in Decatur and other communities served through the public water supply. The City should continue to invest in maintenance of water mains to reduce leakage, including conducting annual system water audits, leak detection and repair and establishment of an upper limit of acceptable loss as part of a systemic program to increase available supply. Such audits should utilize the International Water Association (IWA)/AWWA water balance standards, where all water from source to customer is documented and verified.

1.4.2 Explore use of non-potable water reuse and irrigation on public or private lands.

Negotiate agreements for water reuse with golf courses, other public and private lands, and industrial users. In areas throughout the nation, water reuse is becoming an increasingly significant source of water, with several benefits:

- Reducing the need for water supply;
- Reducing the cost of wastewater treatment;
- Increasing the potential for improved water quality in rivers and streams by diverting release of treated, non-potable water; and
- Increasing the potential for infiltration of water on open lands to recharge shallow aquifers.

There are two major categories for water reuse:

a. Industrial, electrical, and commercial reuse of water for production and cooling purposes. Because power plants and industrial uses are the largest users of water, the potential for water savings overall to the water supply is greatest in this area. Decatur and its industries have a long history of efficient use of water, but ongoing cooperation can maximize this potential savings even further. In addition, smaller users such as car washes can be required to reuse water.

b. Reuse of "graywater," which is non-potable treated water, can be diverted from release into rivers, by being applied on land such as golf courses, public lands, large commercial or even open spaces associated with large residential developments. The technologies for these systems has improved markedly and now are being used widely in the state. They reduce the need for using potable public water supply for irrigation purposes, such as golf courses. Land application can be used in large, residential open space developments to reduce the cost of traditional treatment of wastewater, and increase infiltration and recharge of shallow aquifers. Land application of wastewater is increasing as an alternative to traditional wastewater treatment. Land application should be encouraged as an option to meet discharge requirements and prevent pollution from entering the Sangamon River. It can also be combined with concepts such as conservation development to allow for the clustering of development and permanent protection of open space in an economically efficient arrangement that can potentially reduce capital costs of the project.

Fox Mill, a 730 unit residential development in Wasco, Illinois has been operating since 1993, treating all water on-site to prevent discharge into Mill Creek, a high quality nearby stream.

1.4.3 Educate the public to conserve use of water

A variety of programs can be used to reduce the household consumption of water. Water savings through these programs goes directly to the bottom line savings of the City of Decatur, and should be thought of as an additional source of water. Programs include:

a. Promote the use of WaterSense High Efficiency Toilets (HET), through public education of the benefits/long term reduced cost, and through development of a replacement & rebate program. Toilets are the largest indoor residential water user, accounting for nearly 30% of total indoor use.[1] HETs using 1.28 gallons or less of water will save 20% of the water consumed by toilets. HETs will become the new California minimum statewide standard starting in 2014. Decatur has the

[1] Vickers, Amy, *Handbook of Water Use and Conservation,* WaterPlow Press, Amherst, 2001

opportunity of setting an example for the Midwest in terms of a measured improvement in the reduction of water consumed through toilets and other fixtures.

b. Promote the use of WaterSense High Efficiency Clothes Washers products through public education and through the development of a replacement & rebate program. Clothes washers are the second highest use of household water, accounting for 20%. HEWs can save 4,433 gallons of water plus energy savings per household.
c. Provide outreach to residents and businesses on benefits of conservation.
d. Negotiate program with retailers to offer incentives to customers
e. Work with utilities and state to offer incentives.

STRATEGY 1.5: INCORPORATE BEST PRACTICES OF OTHER WATER AGENCIES TO MOST EFFICIENTLY USE ENVIRONMENTALLY-BENEFICIAL PROCESSES.

Project/Actions

1.5.1 Partner with other water treatment agencies to undertake a study to determine efficient use of environmentally-beneficial processes.

Decatur should look at best practices from other treatment agencies in the nation to determine if there are more environmentally practices, such as lower chemical or power use, that are cost efficient and would make sense for local use.

GOAL 2: IMPROVE STORMWATER QUALITY AND REDUCE RUNOFF THAT CAUSES FLOODING AND SILTATION IN LAKE DECATUR

STRATEGY 2.1: INCORPORATE THE USE OF BMPS TO MANAGE STORMWATER IN ORDER TO REDUCE RUNOFF AND IMPROVE WATER QUALITY

Projects/Actions

2.1.1 Update Stormwater Management Ordinance

Under the federal Clean Water Act, states must issue National Pollution Discharge Elimination System (NPDES) permits for stormwater discharges. Decatur falls under the permit for small municipal separate storm sewer system or MS4 permit. NPDES Phase II MS4 permits were first issued in 2003. Under the recently passed Public Act 96-26, the Illinois Green Infrastructure for Clean Water Act of 2009 requires that all permittees adopt "green infrastructure" stormwater management strategies and techniques. These strategies and techniques include green infrastructure information in education and outreach programs, incorporation of Best Management Practices in stormwater management during construction (including municipally installed impervious surfaces). In addition, post-construction stormwater management must also incorporate and favor Best Management Practices over conventional strategies for infiltration, evapotranspiration and harvesting for reuse.

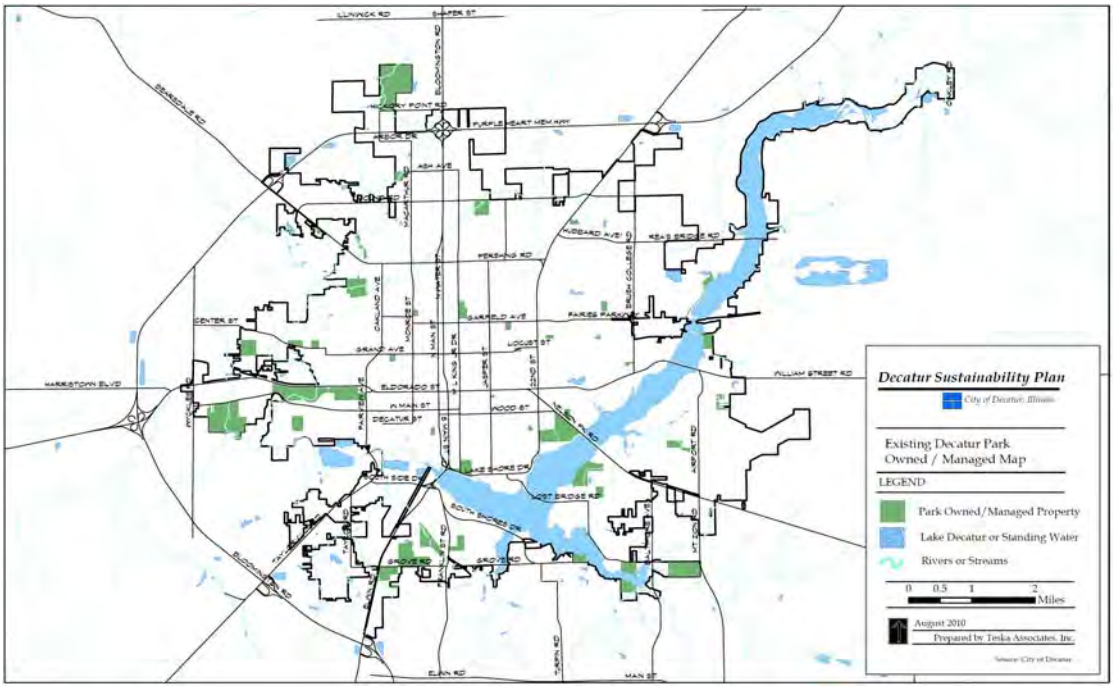
Decatur should work with the County, Mt. Zion, and Forsyth for an update to their stormwater ordinances that would:

a. Revise ordinance to require flow reduction and infiltration standards, while allowing flexibility in the use of Best Management Practices to meet these standards;

b. Define performance standards for common BMPs; and
c. Favor the use of BMPs over conventional strategies to meet standards.

Categories of green infrastructure and BMPs include[2]:

- Bioinfiltration – vegetated systems designed to facilitate the infiltration of stormwater and remove pollutants through infiltration. Examples include bioretention areas, swales, rain gardens, infiltration basins, urban forests
- Permeable pavement – pavement that allows water infiltration into underlying soil and filters some pollutants
- Filtration – a variety of devices which actively or passively filter pollutants out of stormwater. These techniques are often used in conjunction with other BMPs
- Green roofs – roofs with vegetated surfaces designed to reduce runoff and heat island effect through transpiration and evaporation and filter rainwater through their design and materials
- Constructed wetlands – designed wetland intended to intercept runoff, reduce peak flows, decrease runoff volume and mitigate pollution.



Landowners and the Park District must work together to improve shoreline protections, link open spaces, and provide bicycle and amenities along Decatur's waterways.

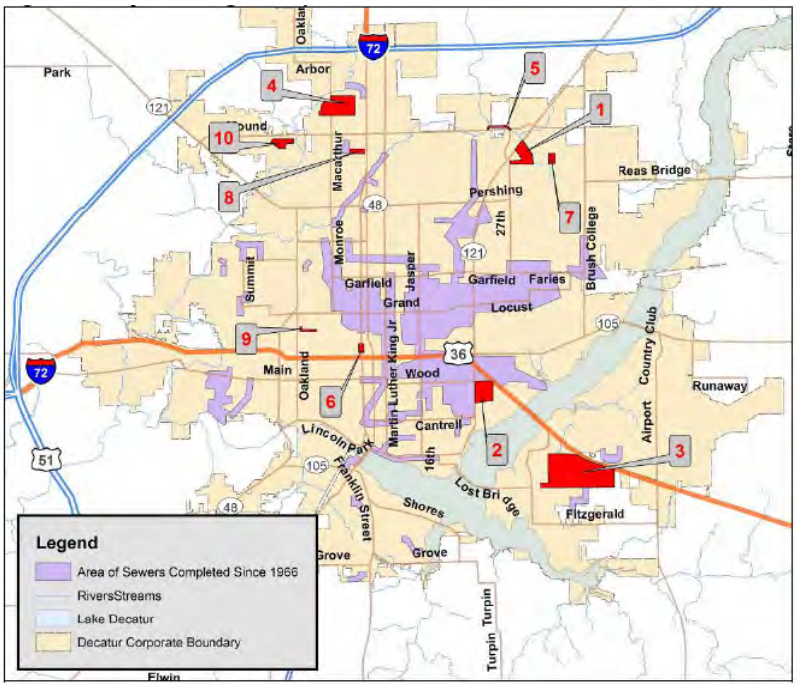
According to a 2010 study required by the Illinois Green Infrastructure for Clean Water Act of 2009 through the International BMP Database, there is significant evidence of the positive impact of the incorporation of these techniques towards both runoff volume and peak flow. Findings include:

[2] Jaffe, Martin et al, "Using Green Infrastructure to Manage Urban Stormwater Quality: A Review of Selected Practices and State Programs," A Draft Report to the Illinois EPA, 2010

- Permeable pavement, bioinfiltration, and green roofs reduced both peak flow and runoff volume between 52 to 85 percent
- As a result of reduced runoff volume, pollutants can be reduced by between 50 and 80 percent
- According to the study, "this reduction in combination with Total Suspended Solids (TSS) and (Total Nitrogen) TN removal efficiency means that green infrastructure practices could decrease up to 90 percent of the pollution in effluent water."[3]
- Biofilters and retention ponds showed a statistically significant decrease in both TSS and TN

2.1.2 Utilize BMPs through public spaces – parkways, parks, boulevards and stream protection

- Inventory parkways, boulevards, and streams for possible use.
- Investigate adding BMPs to West Main St.
- Investigate use of BMPs in stream buffer zones.
- Investigate street rebuilds and streetscapes to include naturalized techniques.
- Seek funds to implement model projects.



2.1.3 Utilize BMPs in capital improvements for high profile public site to demonstrate the effectiveness

2.1.4 Utilize BMPs as a strategy to address current flooding issues in neighborhoods identified in capital improvement plans.

Determine projects on the stormwater capital improvement list that can be resolved partially or in full with BMPs. Many of the areas with chronic flooding problems lie outside the areas of sewer upgrades. Many were designed before current stormwater volume requirements and as a result face flooding. Through the innovative use of BMPs, much of the runoff could potentially be reduced. At a minimum, BMPs should be incorporated in conjunction with conventional stormwater sewer improvements that may be required to address the problem. BMPs will be important to not only potentially reduce the capital investment cost, but can reduce the amount of runoff that will need to be absorbed by the stormwater sewers and discharged.

2.1.5 Promote an outreach and education program to the public and development community on naturalized stormwater management

- Educate public regarding use of naturalized stormwater management (rain gardens, native plants, rain barrels, disconnecting drain spouts) and importance of stormwater quality.
- Educate neighborhood organizations, homeowner associations, and landscape firms.
- Educate development community and public officials on successful use of BMPs.

[3] Ibid., page 33

- Hold seminars and publish brochures geared to property owners and professionals.
- Engage prospective developers and landowners regarding demonstration projects that incorporate sustainable techniques – from open space development to incorporation of BMPs

2.1.6 Implement erosion and sedimentation measures on agricultural lands, construction, and streams.

- Continue education efforts with agricultural community in partnership with Macon County Soil and Water Conservation District
- Promote techniques including:
    - Conservation tillage;
    - Irrigation scheduling and measurement;
    - Furrow dikes; and
    - Contour faming.
- Measure impacts such as reduced runoff.
- Coordinate practices to reduce Nitrogen and other pollutants.
- Update Stormwater Management Ordinance to favor green infrastructure when agricultural land is developed into urbanized area.

2.1.7 Work with property owners (public and private) to improve shorelines to prevent erosion and sedimentation.

- Work with property owners, including Park District, to demonstrate BMPs to reduce runoff and sedimentation along shorelines, particularly along Lake Decatur and the Sangamon River.
- Consider adopting a buffer from waterways to prevent new impervious surfaces within a certain distance from waterways and wetlands.
- Hold educational workshops.

GOAL 3: PROMOTE ENVIRONMENTALLY RESPONSIBLE AND EFFICIENT CONVEYANCE & TREATMENT OF WASTEWATER TO MEET LONG-TERM NEEDS.

Decatur has planned for sufficient wastewater capacity and already reuses 100% of the biosolids produced. It is also experimenting with reuse of treated, non-potable wastewater to use as irrigation on properties such as golf courses. Wastewater should be thought of as another viable source of water that can reduce the total water supply needed by Decatur and nearby communities. This will take long-term planning to have adequate infrastructure, conveyance, and technology to reuse wastewater on a larger scale. Reuse of wastewater provide benefits to sustainability through reduced water consumption overall, reduced pollutants that are released into waterways, and increased infiltration to recharge our aquifers.

STRATEGY: 3.1 MAINTAIN AND MAKE MOST PRODUCTIVE USE OF WASTEWATER.

Projects/Actions

3.1.1 Create and implement asset management plan.

The Sanitary District of Decatur has a well managed program to develop and implement an asset management plan. The Sanitary District should continue to keep the plan up-to-date, and invest in its infrastructure in order to continue to support a highly urban area that can provide for economic development and the needs of its citizens and businesses.

3.1.2 Reuse treated water.

According to the Sanitary District; "The reclaimed water treatment process takes water that would otherwise be released into the Sangamon River and applies advanced treatment which involves adding chemicals to remove solids dissolved in the water. A disk filter system is then used to remove most remaining solids. After the water is disinfected with chlorine it is ready for distribution. Virtually all of the remaining solids, phosphorus and pathogenic organisms are removed during Tertiary treatment. Distribution pumps will deliver the water through separate pipelines to the end users."

Key steps that can be taken are to actively seek additional partnerships with industries and large landowners, and to pursue a delivery system to enable water reuse of reclaimed water. A long-term plan that identifies potential users, determines the efficiency of conveyance, and develops a funding scheme to deliver the water in a cost-efficient manner is needed. Taken in the aggregate, it may be more efficient to add water reuse conveyance if it results in significant savings of public drinking water and can help avoid or reduce public water supply capital and maintenance expenses. Close cooperation is needed between the City of Decatur and Sanitary District to develop a plan that looks at the total water system and most effective means to provide a reliable water system for both water supply and wastewater in a comprehensive system.

3.1.3 Continue to reuse 100% of biosolids and explore packaging for smaller users.

The Sanitary District has an outstanding track record of reusing nearly 100% of biosolids, particularly for application on agricultural lands. Sediment dredged from Lake Decatur is also being reused. The District can explore a program to package biosolids safely for distribution or sale to households, community gardens, community supported agriculture and other uses, similar to the Milorganite that has long been produced and sold by the Milwaukee Sewarge District. One of the key benefits of this program would be the reduction of conventional household and commercial use of fertilizers on grass – a source of polluted runoff damaging Lake Decatur, the Sangamon River and tributaries.

3.1.4 Develop public education for proper sump pump disconnection.

Develop a public education program for local contractors on the proper installation of sump pumps. Proper sump pump installation has several benefits:

- Reduced pumpage into sewer system, particularly in large precipatory events that cause flooding;
- Reduction in the frequency and severity of flooding;
- Reduced wastewater treatment costs for the urban core of Decatur that has combined sewer systems; and
- Reduced need for capital projects to expand sewer systems throughout Decatur, particularly in flood prone areas outside of sewer improvements that have been made.

3.1.5 Develop a public education program for proper disposal of fats, oils and greases.

Fats, oils and greases are an increasing problem that is expensive to address at the collection point. An education program is needed for households that may not be aware of the environmental damage and cost associated with treating fats, oils, and greases that can be avoided. In addition education and code enforcement is needed to ensure restaurants dispose of fats, oils, and greases appropriately. As such, the City should develop brochure, web site materials, and seminars accordingly.

3.1.6 Explore environmentally friendly practices for treatment of wastewater.

Decatur should explore additional techniques for the most cost-efficient and environmentally responsible techniques to treat wastewater. These include

- Consider land application systems to treat wastewater in select circumstances, and the chemicals and techniques used to treat wastewater;
- Investigate practices among other wastewater treatment agencies;
- Determine costs for efficient techniques; and
- Develop timetable and plan for implementation.

3.1.7 Conduct a demonstration project to use effluent for crop irrigation

While biosolids and sediment dredged from Lake Decatur are already effectively reused, a demonstration project should be used as a showcase for agricultural lands, and tool to measure the impacts, including:

- Reduction of conventional fertilizers;
- Reduction of pollutants from land through runoff, particularly Nitrogen; and
- Cost benefits to public and private landowners from reuse.

Key Energy 2030 Goals

For the purpose of this plan, energy was a broad topic that encompassed many elements including energy consumption in buildings, transportation energy and renewable energy generation. While energy is highly influenced by outside entities and regulators, including Ameren Utilities, the State (Illinois Commerce Commission), the PJM regional electric grid that covers 13 states, as well as the federal government, there are strategies that Decatur can undertake to address energy reduction and renewable energy production.

The goals of Sustainable Decatur reflect both deliberate local action, combined with regulations and requirements set forth by these outside parties, expected technological advances, and increased funding opportunities. As such, some goals reflect a timeframe that reaches beyond 2020:

- **Energy consumption in Decatur will be reduced by 25% in households and 10% for commercial and industrial use by 2030.**

  Energy costs are a crucial expense that has risen over time and thus making housing less affordable. However, energy costs can be reduced at the household levels through energy efficiency with advancement in technology and lifestyle changes. Household energy use combined with commercial uses account for 30% of Decatur's total energy usage. Looking outside of the household energy usage levels about 70% of energy consumption in Decatur is for industrial uses. While changes to industrial energy consumption may be impacted by state and federal policies and regulations, reduction of energy consumption in this sector is possible.

  In the commercial and residential sectors, multiple energy efficiency programs and funding sources exist and will likely continue to grow, including at both the federal and state government level, as well as through utility programs. A 25% reduction per household and 10% for commercial & industrial uses

in energy consumption is possible through greater efficiency and consumption reduction both of which are possible through technological advances and lifestyle changes.

- **Renewable energy sources will account for 25% of all electricity usage by 2030.**

  Currently, the City receives approximately 5% of its electric energy usage from renewable energy sources, which matches what is required by the Illinois renewable portfolio standard. Illinois, and in particular central Illinois, is ideal for the production of wind energy. The state now requires that by 2025, all major electric utilities will have an energy portfolio that includes 25% renewable energy, 75% of that coming from wind. The region's agriculture culture and focus on improvements to bioenergy also make Decatur an ideal location for the installation of a biomass-powered combined heat and power plant. With advances in technology and reduced costs of such technology, multiple forms of renewable energy will be a more cost effective proposition in the future.

- **Bicycle, pedestrian and transit trips will increase by 25% by 2030, while vehicle miles traveled (VMT) per capita will be decreased by 25% by 2050**.

  Vehicle miles traveled (VMT) is a standard measure to describe automobile use on a daily or annual basis. It incorporates both the number of vehicle trips and the length of those trips. A 25% reduction would reduce total VMT in Decatur from 15,188 to 11,391 by 2050. A 25% reduction in VMT is possible through increased public transit usage, increased pedestrian/bicycling opportunities, and better physical connections and shorter distances between residential uses and employment.

The goals, strategies and projects set forth in this section of the Decatur Sustainability Plan are vital to the city's long term viability. Understanding energy and how it is consumed is important for two reasons: one part consumer and one part environmental stewardship:

- Rising energy costs: The cost to produce energy for electricity and natural gas are rising; oil and thus gasoline costs are rising. A reduction in consumption means less dollars spent on energy bills. This bottom-line result is meaningful at the household level and the small business to the school district and the municipal government.
- Energy in buildings / transportation account for highest greenhouse gas emissions: Nationwide, over 90% of all emissions are a result of the consumption of energy in buildings (electricity and natural gas) and transportation energy (oil, petroleum, gasoline). A significant reduction of energy consumption in buildings and by transportation will result in a reduction in emissions as well.

Below are some other key details that should assist in the formation of strategies and projects:

- All-sector approach:

  Simply put, we all use energy, so we can all be a part of the solution. The key to involvement is crafting a request for action/involvement aimed at each audience. The residential sector, small businesses, as well as large commercial stores, industry, schools, hospitals and other institutions, and government agencies all can play a role in achieving Decatur's energy efficiency targets.

- Range of impactful energy behavior change:

  As Decatur delves into a range of strategies to use energy more efficiently, it is important to note that not all strategies are equal. Some strategies require very little of the person implementing them, and or minimal financial investment, while others are the very opposite. For example, the replacement of incandescent light bulbs with CFLs are relatively straight forward and low cost; while all buildings energy retrofit is much more complex and is a major investment. Similarly, the energy savings achieved by strategies can vary greatly. For example, if every light bulb in Decatur were exchanged for a CFL, the energy savings still would not amount to that which would be experienced if just a small amount of the housing stock were retrofitted.

This pyramid from Minnesota Power shows that a homeowner's first actions involve learning about energy efficiency, and a wide range of simple low/no-cost strategies. As these actions become more complex, they generally require a higher investment.

- Interconnections of Actions: connectivity to other planning and sustainability issues.

  While energy is an important component of the Decatur Sustainability Plan, it does not exist in a bubble, and is related to other areas of this Plan as well as other City policies and plans. These connections of all Plans should be considered in the development of strategies and projects, and an understanding that acting on one activity can affect another. Below are some examples:
  - Land use patterns influence how far one has to drive to conduct daily business (transportation energy).
  - Infill housing taps into existing utility infrastructure instead of new fringe development, which requires the expansion of the system (land use/development).
  - Building codes influence how structures are built. (energy efficiency).
  - Zoning codes dictate how and what can be placed around/on your property. (renewable energy).
  - Waste hauling is very energy intensive from collection (transportation energy) to processing (energy efficiency).
  - Water treatment is very energy intensive (energy efficiency).

Understanding individual and collective energy consumption and taking action to use energy more efficiently is a key component of the Decatur Sustainability Plan, and can also serve as a foundation for a climate action plan or other environmental endeavors that the City chooses to embark upon.

Key Energy 2020 Goals, Strategies, and Projects/Actions

GOAL 1: *DECATUR WILL BE CONSCIOUS OF BUILDING ENERGY USAGE AND UTILIZE ALL TECHNOLOGIES AND TECHNIQUES TO INCREASE EFFICIENCY*

STRATEGY 1.1: PROVIDE INCENTIVES FOR IMPROVING ENERGY EFFICIENCY.

A significant energy investment a consumer can make, that is often an untapped resource, is to use energy more efficiently. The concept of energy efficiency is to use less energy to complete the same process. Energy efficiency presents both environmental and economic benefits. Energy in our region comes primarily from the burning of fossil fuels, which are non-renewable resources. Using that energy more efficiently makes better use of these finite resources. In addition, unchecked growth in fossil fuel energy consumption also means a rise in carbon emissions into the atmosphere, and this buildup creates negative effects known as the greenhouse gas effect, or "global warming." At an individual level, energy costs have risen dramatically in recent years and are not expected to fall. Using energy efficiently also makes good financial sense. During tough economic times like these, energy savings can make a huge difference at the household level all the way up to the large commercial enterprise.

Projects/Actions

1.1.1 Develop an energy assessment or energy audit program for all sectors and identify options for providing assistance in the implementation of energy efficiency strategies (e.g. revolving loan fund, utility finance program).

An energy auditor inspects a basement.

The first step to being able to improve one's energy efficiency is to be able to benchmark energy consumption and identify areas for improvement. A comprehensive energy audit program will allow consumers to do this at varying scales. An energy audit is ideal, because a trained professional inspects the property and, with additional supplied information (e.g. improvements made, energy consumption data) makes a tailored list of energy efficiency recommendations that range from low/no-cost to high-investment ones, accompanied with projected savings. A lower-cost alternative is an energy assessment tool, which provides consumers with a do-it-yourself kind of energy audit, making assumptions based on general data inputs that the user is requested to supply. Both energy audits and energy assessments provide some measure of energy efficiency education to the consumer, and are an important starting point when encouraging energy efficiency actions to be taken. Potential actions to consider are:

a. Online do-it-yourself energy assessment tool.

b. Energy audit program (at-cost) that provides more specific energy efficiency strategies.

c. Identify a range of financing options for the implementation of energy efficiency recommendations.

1.1.2 Develop a retrofit program for residential and commercial sectors, and identify and/or create options for financing them.

A retrofit program, or a whole-home approach, moves beyond weatherization and just windows and doors to examine all systems in the house, from building envelope, to buildings systems (lighting; heating and air conditioning; major appliances) to its occupants and their behavior. Actions include:

a. Develop a comprehensive retrofit program that is tailored to the unique needs (marketing, financing) for each sector: single-family residential; multi-family residential; small business; large commercial; and industrial. It may be advantageous at first to target one or just a few sectors.

b. Research and investigate different funding opportunities for the program, considering different financing tools and mechanisms for each sector including but not limited to revolving loan funds, PACE bonds, energy efficiency improvement districts, and existing federal and state funds.

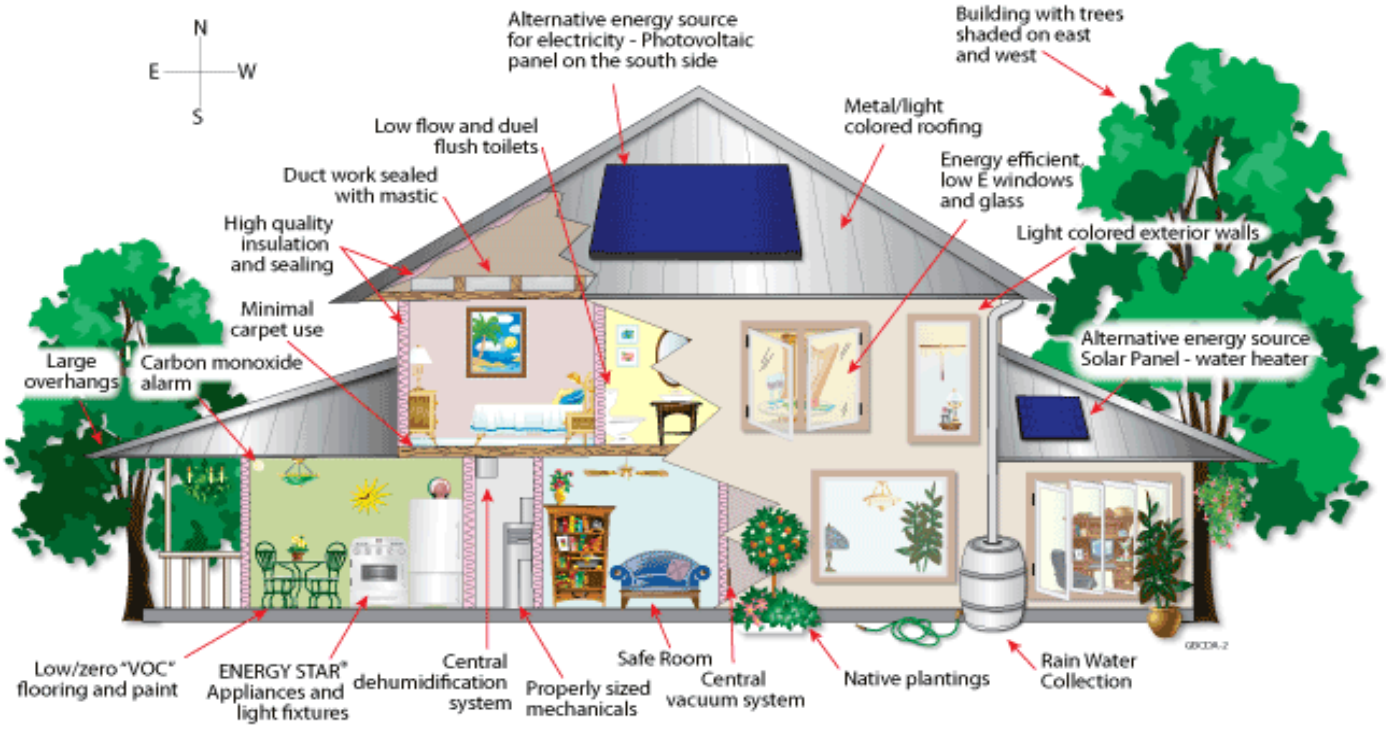


Diagram of a green building.

1.1.3 Obtain energy audits for all public buildings and implement energy efficiency strategies.

The City and other public agencies can show leadership in energy efficiency, and also educate the community by documenting its own energy consumption in publicly-owned buildings, as well as implement the energy efficiency strategies that are provided. Actions include:

a. Audit all public buildings and make available the audit reports of those buildings.

b. Develop an implementation plan for a select mix of the audit recommendations.

c. Publicly compare building consumption (e.g. Energy Star rating or by energy use intensity for community education.

d. Consider method for ongoing building performance monitoring to track energy consumption and address issues when they arise.

1.1.4 Promote and incentivize a green building program.

Green building programs, whether LEED (Leadership in Energy and Environmental Design from the US Green Building Council), EnergyStar, or some standard developed by the local community, are designed to create a standard measurement of energy efficiency and other sustainable characteristics in new construction. Local programs vary nationwide, ranging from voluntary to mandatory, and often include incentives that include reduced permit fees, expedited permit processing, income tax credits, development fee waivers and more. This report high-lights successful incentives: http://www.naiop.org/foundation/greenincentives.pdf.

a. Market and recognize all LEED projects in Decatur.

b. Promote benefits of green buildings.

c. Research/identify fiscal and programming incentives that might be best suited for Decatur.

Communities are getting creative about involving residents and businesses in energy efficiency. An energy challenge (above) is an easy way to get people thinking about small, incremental changes that lead to big savings over time. Utilizing engaging marketing and appealing graphics (below) is ideal.

STRATEGY 1.2: PROVIDE EDUCATION ON ENERGY EFFICIENCY.

"Go green" is becoming the mainstream media message splashed across billboards, television ads and newspaper articles. Most adults and even children have heard about the benefits of compact fluorescent light bulbs (CFLs). A nationwide survey in 2007 polled adults and found that 52% said that the issue of global warming was either extremely or very important to them personally, with another 30% ranking it somewhat important.[1] Despite rising concerns about climate change, our actions do not reflect the scale of change needed to help solve the problem. Small but significant behavioral changes, like turning off appliances and lights, reducing cooling and heating temperatures by 3 degrees in residential properties, and using programmable thermostats to control temperatures in commercial space, have the capacity to significantly impact energy and emissions savings. Translating our concerns into changing our personal habits would have substantial impact in reducing energy consumption and greenhouse gas emissions. However, in order for any behavior changes to occur, it is important that we communicate the following:

[1] ABC News/Washington Post/Stanford University **Poll**. April 5-10, 2007. N = 1,002 adults nationwide. MoE ± 3. Fieldwork by TNS.

- Why should we take action?
- Who should take action?
- How is it done?
- What is the expected outcome and benefits for me? My community?
- Are there any costs, upfront or hidden?

Providing education on energy efficiency that targets certain sectors/consumers, and also for specific projects will engage the community, help break down certain myths (e.g. energy conservation means I have to be uncomfortable) and is a good vehicle to highlight best practices and success stories that emerge from the community.

Projects/Actions

1.2.1 Develop an energy efficiency campaign/education that institutes and encourages behavioral change as a way of life and doing business, individually and collectively.

The City should develop a multi-faceted energy efficiency campaign that is heavily publicized with the rollout of the Decatur Sustainability Plan. This large scale communications plan should start with the basics by explaining how energy efficiency benefits the "me" in all sectors: the homeowner, the business owner, the college student, the large industry, the small business, and others. Actions include:

a. Develop a broad scale, multimedia energy efficiency campaign that targets different sectors and utilizes engaging techniques and graphics.

b. Develop a K-12 educational curriculum that augments the energy efficiency campaign.

c. Reach out to local colleges/universities for assistance in the campaign. (e.g. Marketing and communications; education curriculum design)

1.2.2 Develop a method for regular energy data collection and analysis by the City in order to measure ongoing sustainability efforts.

The initial baseline analysis for the City of Decatur involved a large amount of data collection and analysis. The City should continue collecting, analyzing and archiving data in order to gauge success, and pinpoint areas for improvement or refinement. Actions include:

a. Establish dataset needs for ongoing collection and analysis.

b. Establish a data-sharing agreement with Ameren in order to retrieve citywide energy consumption data on a regular basis.

c. Develop a database for storing pertinent data.

1.2.3 Develop and share energy efficiency guidelines for standard City operating procedures (e.g. turning off computers and monitors, phantom load, etc…)

a. Research and develop energy efficiency office guidelines and procedures for all City staff.

b. Publicize energy efficiency guidelines within the community, highlighting parallels in the home and in the office for the benefit of the residential and commercial sectors.

1.2.4 Provide and promote educational opportunities for building operations and maintenance staff.

Building Operations Maintenance certification class conducted by MEEA, the Midwest Energy Efficiency Alliance.

Building operations and maintenance staff should be well-versed in energy efficiency techniques and emerging technologies as the first line of defense in our larger buildings, both public and private. The most energy efficient, conscientious tenant or office occupant is only as efficient as his building O&M staff that generally has control of the major systems in the building, including but not limited to heating and cooling. Actions include:

a. Provide opportunities for energy efficiency training on building energy systems and controls and emerging technologies, for operations and maintenance staff of office, municipal/governmental, industrial and large multi family buildings.

b. Encourage ongoing roundtable discussions among operations and maintenance peer groups to discuss lessons learned and best practices in the community.

STRATEGY 1.3: IMPROVE ENERGY USE THROUGH IMPLEMENTATION OF NEW TECHNOLOGIES.

Energy efficiency is not solely achieved through consumer behavioral change. Technological advances also aid in the efficient use of energy, as evidenced by the popular EnergyStar branding of consumer products and the increase in gadgets and tools on the market that are designed to help everyone from the homeowner to the factory operator use energy more efficiently.

Projects/Actions

1.3.1 Develop and share an energy efficiency guidelines for procurement (e.g. for purchase of office equipment.

a. Research and develop energy efficiency/sustainability procurement policies for the purchase of office equipment and other sustainable purchases (recycled paper, etc).

b. Publicize procurement policies within the business community for replication.

1.3.2 Engage in ongoing smart grid technology discussions and remain involved.

a. Determine whether or not there are new smart meter/smart grid pilot programs that Decatur can tap into with Ameren.

b. Determine how Decatur can take advantage of existing smart meters that are currently being tested in the Ameren territory.

c. Get involved with the ongoing policy discussions surrounding smart grid technology and educate the public along the way.

GOAL 2: *DECATUR WILL INVESTIGATE AND UTILIZE RENEWABLE ENERGY OPPORTUNITIES, WHEN AVAILABLE AND COST EFFECTIVE, TO REDUCE THE CONSUMPTION OF FOSSIL FUELS*

Richland Community College windmill.

Centralized power stations, at their inception more than one hundred years ago, provided the most efficient method for the creation and distribution of electricity. But as more fuel options and improved technologies have come to market in recent years, both large scale renewable energy generation and small scale, on-site "distributed generation" (DG) have become a viable alternative. Renewable energy generation is attractive for many reasons including environmental impact, ability to address supply problems (e.g., power quality and availability), and in the case of on-site generation, energy security (e.g., eliminate potential for centralized electricity failure).

On-site (small scale) renewable energy

On-site generation of electricity allows households to decrease or even eliminate the amount of electricity purchased from the electricity grid. Appropriate household systems include photovoltaic (PV) panels or wind turbines that can be installed on roofs or in yards. Participating households would likely interconnect home DG systems to the electric grid in order to sell excess power, as well as purchase power when home systems do not provide sufficient capacity.

The major barrier to distributed generation is its high initial investment costs. The cost of installing renewable electricity systems vary from $15,000 up to $50,000, with lengthy payback periods if no subsidies are involved. The State of Illinois offers rebates for alternative energy system installation, providing up to 30 percent of the installation cost.[2] The demand for these funds consistently exceeds available financing, which has resulted in only a small number of installations. While PV systems provide "free electricity," this avoided cost is very small compared to the cost of retrofitting a home for a new PV system. However, building-integrated PV systems at the time of construction are found to be much more cost-effective than retrofitted systems, and have a payback period of only 1 to 4 years.[3] Solar hot water systems are also much less expensive. Overall, there are no known households in Decatur that utilize renewable generation. To make this viable for even middle or upper income households, significant financial assistance for startup costs will likely be required.

[2] Illinois Department of Commerce and Economic Opportunity, http://www.commerce.state.il.us/dceo/Bureaus/Energy_Recycling/Energy/Clean+Energy.

[3] P. Eiffert, National Renewable Energy Laboratory, "Guidelines for the Economic Evaluation of Building-Integrated Photovoltaic Power Systems," Golden, Colorado: January 2003

Large Scale renewable energy

Photovoltaic (PV) technology and wind power are two proven alternative clean energy sources for utility-scale production of electricity. Using renewable generation sources instead of fossil fuel will result in greenhouse gas (GHG) savings and many other benefits that include reducing air pollutants that damage public health and, importantly, increasing opportunities for innovation and new job creation. Bioenergy also has potential for electricity production, but due to its experimental nature, it will be more expensive to implement and connect to the larger grid at this time. Currently, expense is the largest barrier to implementation of renewable electricity generation.

Twin Farms wind farm near Bloomington.

Wind. Illinois has substantial wind energy resources, with the best winds in central Illinois[4]. There are several nearby proposed wind farms, and one turbine that produces a small amount of energy at Richland Community College. Wind is a currently underutilized resource with capacity to expand. Ameren is required by law to have 25% of its electricity production be from renewable sources by the year 2025, with 75% of that coming from wind.

Photovoltaic (PV)/Solar. PV technology is being deployed on a utility-size scale in numerous locales world-wide and in the U.S. The plants consist of multiple interconnected PV arrays. The U.S. Department of Energy (DOE) notes that, while the up-front costs of PV systems are higher than both traditional and other alternative energy production operations, they provide do unique benefits. PV arrays can be brought into production much more quickly than conventional plants and, due to their quiet, non-polluting operations, do not face siting objections as other plants do. Within that same renewable energy requirement for Ameren, it outlines a faster implementation deadline for solar energy, with 6% of all electricity coming from solar resources by 2015.

Bioenergy. Switchgrass is a perennial, native plant to Illinois prairies that can be liquefied, gasified, or burned to produce energy. The Agricultural Watershed Institute's Local Bioenergy Initiative was formed to "ensure that Decatur-area farmers, businesses, and communities are in the forefront of this important segment," citing a critical component that "using plant materials has the additional benefit of providing a new crop for farmers to produce, with the potential for rural Illinois economic development."[5]

Changing the fuel sources for electricity generation has the potential to significantly reduce emissions, create job opportunities, and support the growth in green energy technology manufacturing. Decatur should remain involved in the ongoing policy discussions and issues surrounding renewable energy by supporting legislative policy and funding of projects that make sense for the environment and economy. Further, the City should position itself and the surrounding area for consideration in the siting of both large and small scale renewable energy projects as Ameren expands its renewable energy portfolio in the coming years.

[4] Illinois Wind Energy Association.
[5] Agricultural Watershed Institute *"The Local Bioenergy Initiative: Enhancing the Triple Bottom Line of Agriculture."* December 2008.

STRATEGY 2.1: DEVELOP A MARKET FOR PERENNIAL GRASSES FOR BIOENERGY USE

2.1.1 Recruit farmers to produce perennial grasses for bioenergy.

Outreach will include workshops, field days, fact sheets, web sites and other educational activities for prospective growers. AWI coordinated an energy grass education area at the 2009 Farm Progress Show and will repeat and update the successful exhibit at the next show in Decatur in 2011. Local partners are seeking financial and in-kind support for establishing energy grasses. AWI will work with the Macon County Soil and Water Conservation District to implement the Big and Long Creek subwatershed project, which includes harvestable filter strips designed to protect Lake Decatur.

2.1.2 Develop a market for industries to purchase perennial grasses for bioenergy use.

Markets for fuel made from energy grasses include home or commercial heating systems and industrial or utility boilers. AWI will work with businesses, entrepreneurs, and investors to assess options and conduct tests and demonstration projects on the most suitable options. AWI will work with appropriate agencies to identify and pursue biomass-related economic development opportunities such as local manufacturing of equipment to make and use grass fuel. AWI will also determine the viability of "green payment" mechanisms for greenhouse gas reduction, water quality, and other conservation benefits.

2.1.3 Begin test projects of growing perennial bioenergy crops that utilize less water and fertilizer and test the impacts on water quality.

Decatur can build a market for production of bioenergy while reducing overall water quality impacts on the Sangamon River watershed and increasing the value of agriculture property over time. Starting with 40 acres in 2010 with 40 tons harvested, the goal is to move up to 11,000 acres over the next ten years, producing 68,000 tons of grasses harvested.

STRATEGY 2.2: UNDERSTAND EXISTING RENEWABLE ENERGY OPPORTUNITIES AND CONSTRAINTS.

The City should research renewable energy topics and remain informed on the local, state and regional happenings as utilities strive to meet their requirements as prescribed in the Illinois Renewable Energy Portfolio Standard, as well as other nearby states. Decatur may be well positioned for both on-site and large scale renewable energy projects, given its current mix of land use (major industry, sturdy housing stock surrounded by rural areas.)

Projects/Actions

2.2.1 Review current city codes and polices to ensure it supports renewable energy and doesn't hinder it.

a. Review the zoning ordinance, building code and property maintenance-related codes in particular for elements that would prohibit small scale renewable energy unintentionally, and amend accordingly.

b. Research and consider on-site renewable policies for wind and solar.

2.2.2 Develop an information clearinghouse for renewable energy at the household/small business level.

Provide information for consumers interested in on-site renewable energy, including how to connect to the larger electrical grid.

2.2.3 Remain informed and updated regarding Ameren's renewable energy portfolio requirements and progress.

Review progress reports submitted to the Illinois Commerce Commission and other entities.

STRATEGY 2.3: IDENTIFY FINANCING AND POTENTIAL SITES FOR LARGE AND SMALL SCALE RENEWABLE ENERGY PROJECTS.

As the City inserts itself into the local and regional conversations regarding renewable energy, it should pay close attention to pilot projects and "live" projects that are being discussed by Ameren. The City should pay close attention to the checklist of site qualifications to determine where Decatur and its surroundings might be a good fit. It should be noted that these same qualifications can also be marketed to private developers and other utilities, as electricity generation can, and is often supplied from hundreds of miles away.

Project/Action

2.3.1 Review and leverage potential program funding for project sites from utilities, government and private developers.

Given Ameren's renewable energy requirements for 2025, Decatur should aggressively position itself for any pilot demonstration projects for on-site renewables, especially in the residential and industrial sectors.

2.3.2 Identify opportunities at individual and large scale level projects

Once ideal site qualifications are understood, Decatur should consider, at a minimum, highlighting local sites that meet those qualifications by mapping them and providing packaged information (including ideal sites, receptive community as evidenced by the Sustainability Plan, etc)

a. Given Ameren's renewable energy requirements for 2025, Decatur should aggressively position itself for any pilot demonstration projects for on-site renewables, especially in residential and industrial sectors.

b. Given Decatur's urbanized area surrounding ample rural land, Decatur should aggressively position itself for wind farm projects, private or utility-based specific to Ameren or regionally, for ComEd.

GOAL 3: *DECATUR WILL REDUCE TOTAL AND AVERAGE HOUSEHOLD VEHICLE MILES TRAVELED*

STRATEGY 3.1: IMPROVE FLEET EFFICIENCY.

In order to further address energy conservation the City should examine its second largest contributor to emissions—transportation. Taking account of its vehicle usage and instituting policies makes good environmental and economical sense. The City can take this opportunity to lead by example, while improving the environment and saving taxpayers money.

Improving fleet efficiency includes examining types of fuels used, the mix of vehicles within the fleet, and other practices (such as an anti-idling policy) to maximize efficiency whenever and wherever possible. As shown by Eagle County, Colorado, Decatur could benefit immensely with a comprehensive approach to fleet management.

Eagle County, Colorado
Cutting Fleet Costs & Fuel Consumption

Eagle County conducted a "utilization study" of its fleet in order to examine a monthly account of miles driven, fuel costs, repairs and maintenance. There are software programs for this, but smaller fleets can design a simple spreadsheet. Using the study as a basis for decision-making, the county reduced costs and consumption in the following ways:

- Targeting departments with low-use vehicles for sharing of cars
- Using right vehicle for the job (hybrid cars when possible, vans versus trucks)
- Employs "check out system" for trucks, SUVs that aren't always needed
- Requires proof from departments requesting pickup truck purchase
- Aggressive fleet maintenance

Source: http://garfieldcleanenergy.org/trans-fleets-Eagle.html

Projects/Actions

3.1.1 Incorporate fleet purchasing and management program to include all City vehicles.

a. The City should consider a comprehensive fleet management program to assess vehicle needs and pinpoint issues over time.

b. The City should institute policies for flex fuels/biofuels, hybrids, size requirements (compact vs. SUV), and general efficiency factors for the purchasing of all City vehicles.

STRATEGY 3.2: ENCOURAGE CARPOOLING.

A carpool consists of at least two commuters who share a ride to and from work or regional destination points using their personal vehicles. Generally, there are two types of carpools: Sharing the riding and driving/riding only, where one person always drives and the other always rides. In both kinds, the cost of carpooling is distributed fairly among the drivers/riders.

Given the amount of Decatur residents who travel daily to the regional employment centers of Champaign-Urbana and Springfield, the City could initiate and publicize a carpooling program that touts the benefits of carpooling which include the following:

- Reduce costs through shared commuting costs;
- Reduce commuting stress while reducing traffic; and
- Reduce air pollution/emissions.

Common approaches to carpooling include an online ride "finders" program and incentives such as offering guaranteed rides home in the event of an emergency, preferred or free parking, prizes, etc…

Carpool benefits and incentives in Toronto, Canada.

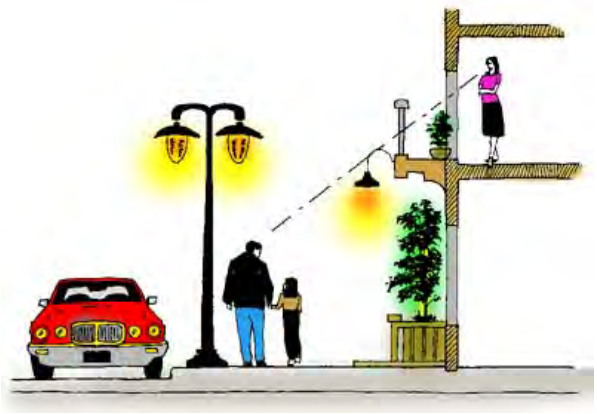
Project/Action

3.2.1 Develop a regional carpooling program for major employment centers in the region.

Create a regional carpooling program to engage those who drive daily to Champaign-Urbana and Springfield. Utilize highly accessible and visible starting points such as the Convention Center or the mall.

STRATEGY 3.3: IMPROVE WALKABILITY.

If Decatur aims to get people out of single occupancy vehicles, people need to be able to use sidewalks to arrive at their intended destinations. Major commercial hubs and transit stations/stops need pedestrian-friendly intersections and connections that make sense at the "human scale." Established neighborhoods that do not have sidewalks should be enhanced with sidewalks that are integrated into the existing city sidewalk system. At the time of construction, new residential neighborhoods should be connected to nearby destinations not just by road, but by a network of paths and sidewalks that are protected with amenities including curbs, trees and other traffic calming devices that encourage drivers to be mindful of pedestrians and other modes of travel. These same safety enhancements and amenities should be afforded to the established neighborhoods whenever possible.



Pedestrian safety enhancements include on-street parking (acts as buffer, and slows cars down) and street lighting (buffer). Amenities include the decorative lighting and street plantings.

Projects/Actions

3.3.1 Require sidewalks (using a connectivity index) along all newly constructed residential and commercial buildings.

Sidewalks are required in all new construction projects, however a connectivity index will provide an added sustainability measurement for the benefit of the City and its residents, business owners and other stakeholders.

3.3.2 Work with neighborhood organizations to install sidewalks within residential areas that do not currently have sidewalks.

Identify where there are not sidewalks and develop a timeline/schedule for installation of sidewalks.

STRATEGY 3.4: PROMOTE INCREASED TRANSIT USAGE.

The Decatur Public Transit System (DPTS) provides 15 bus lines that operate on a "pulse" system every 30 minutes originating from the downtown area. Providing non-personal automobile means of transportation is especially important to individuals and families on fixed incomes, the elderly, youth, and the disabled. Bus ridership will increase if public transportation choices are expanded to include additional routes, extended hours and interconnected extensions like bicycling routes, car-sharing, and pedestrian-friendly destination points. But how does the transit system expand with its current ridership? The "chicken and the egg" analogy is a good fit for this discussion, which comes first, more people willing to ride busses, then extended hours and additional routes? Or will the additional riders come once the routes are deemed more convenient? The strategy discussions to promote increased transit usage must occur within the context of other complementary strategies, and the changes must be incremental so the careful balance of new options and increasing ridership does not adversely affect DPTS or riders.

Project/Action

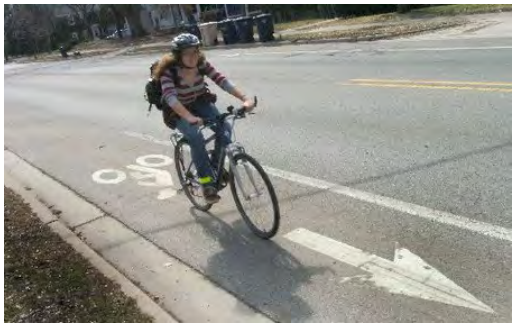
3.4.1 Develop an educational campaign on the benefits of using transit and other modes of transportation.

Develop a "promote transit" campaign in conjunction with other transportation programs, such as carpooling, car sharing and bicycling. At first, consider targeting particular audiences (e.g. student population.)

3.4.2 Seek solutions for providing transportation to outlying areas.

Continue the discussion to determine best ways to expand transit to outlying residential and commercial areas.

STRATEGY 3.5: IMPROVE BICYCLING OPPORTUNITIES FOR BOTH RECREATIONAL AND TRANSPORTATION PURPOSES.



Improving bicycling and promoting it as a viable alternative for transportation in and around Decatur will aid in the enhancement of other alternative methods of transportation, including transit, carpooling, car sharing, and walking. This is much different from years past when transportation planners were planning with only the motor vehicle in mind. However, in the early 1990s, federal legislation required that any transportation project receiving federal funds (most of them!) must promote "intermodalism" and for the first time, funded non-road projects including bike paths and sidewalks.

In the introductory purpose section of the *US Department of Transportation Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure* , it notes that "the additional 'burden' of having to find space for pedestrians and bicyclists was rejected as impossible in many communities because of space and funding constraints and a perceived lack of demand. There was also anxiety about encouraging an activity that many felt to be dangerous and fraught with liability issues. Designers continued to design from the centerline out and often simply ran out of space before bike lanes, paved shoulders, sidewalks and other 'amenities' could be included."[6]

It was for these reasons that the US Department of Transportation opted to develop the policy statement on the integration of bicycling and walking, providing key design and policy measures, taking much of the "legwork" of research and testing of what works and what doesn't. "Every transportation agency has the responsibility and the opportunity to make a difference to the bicycle-friendliness and walkability of our communities. The design information to accommodate bicyclists and pedestrians is available, as is the funding. The United States Department of Transportation is committed to doing all it can to improve conditions for bicycling and walking and to make them safer ways to travel."[7]

The policy statement goes on to read that this integration of multi-modal transportation is a long-term transportation planning issue and should be treated as such in all comprehensive transportation planning efforts. The statement concludes with the suggestions that all transportation agencies:

- Adopt the policy statement and any new/amended design guidelines and manuals as they come forth; and
- "Initiate an intensive re-tooling and re-education of transportation planners and engineers to make them conversant with the new information required to accommodate bicyclists and pedestrians. Training should be made available for, if not required of, agency traffic engineers and consultants who perform work in this field."[8]

[6] US Department of Transportation. "Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach." http://www.fhwa.dot.gov/environment/bikeped/design.htm#d3
[7] Ibid
[8] Ibid

Projects/Actions

3.5.1 Increase on-street safety enhancements

Review, understand and implement US DOT Federal highway Administration's "Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach" into long term transportation planning efforts in Decatur, while encouraging surrounding areas to do the same.

3.5.2 Install secure bicycle racks/parking at public transit locations and in commercial hubs

Install simple bike racks for ease of bike parking in high traffic areas.

3.5.3 Develop a "sharing the road" bicycle awareness program

Create a community awareness program at onset of implementation of new enhancements that highlights City policy to share the road among pedestrians, cyclists and drivers.

3.5.4 Develop a bike/transit program

Create a program that makes it easy to take your bike along on transit rides (essentially extending all transit trips by the cyclists' choice.)

STRATEGY 3.6: INVESTIGATE CAR-SHARING AS A TRANSPORTATION ALTERNATIVE.

I-Go car sharing advertisement, Chicago, IL

Car sharing is a type of car rental that allows participants to rent cars for short periods of time (e.g. a few hours) to conduct everyday business like grocery shopping, going across town to visit a friend or a night on the town. The most popular car sharing programs are I-GO and Zipcar. Car sharing allows the freedom of having a car, but without the hassles of car ownership, including car notes, insurance, rising gas prices and other fees. Car sharing is ideal for households with limited budgets such as college students or senior citizens, and concerned citizens with an interest in reducing their carbon footprint. Successful car sharing programs are integrated with, and thus promote, public transit, bicycling routes, and walking.

Project/Action

3.6.1 Investigate car-sharing as an alternative method of transportation that allows participants the freedom of having a car without the burdens of ownership.

Research car-sharing programs in other cities and consider their applicability in Decatur. In a pilot or test run, consider targeting "limited income" sectors of our population that will benefit from having a car, but not necessarily the fees associated with it.

Land Introduction

For the purpose of this Plan, land incorporates a range of issues including urban core redevelopment, sustainable development practices, agriculture preservation, urban gardening, property maintenance, and historic preservation. The Sustainability Team was able to group the multitude of issues regarding sustainability of land into three main areas of focus:

Focus Area 1: Urban Redevelopment and Jobs

The preservation of our natural resources and land, and the way we conserve them, are on the forefront of sustainability. As such, it's important to promote development in areas that are already built and have existing infrastructure. Fortunately, Decatur has a rich history of a strong and vital urban core, anchored by jobs, community institutions, public facilities, and housing.

Infill development and revitalization is important to sustainability in a multitude of ways by decreasing costs, reducing the need for new infrastructure, reducing development pressure on agriculture and environmentally sensitive land, increasing pedestrian and transit options, and providing economic development opportunities where people already live.

Creating a market and preservation of existing homes in the urban core is a key strategy towards sustainability

Consistent with Decatur's Comprehensive Plan, the Sustainability Plan supports all policies that advance urban reinvestment and job development in the urban core.

Focus Area 2: Green Building and Sustainable Design

While revitalization of the urban core is extremely important, it is also essential that new development is encouraged and built sustainably. One such technique to incorporate sustainable design and practices into new construction is through green building techniques. The tenet of green building is the practice of creating structures and using construction methods that are environmentally responsible and resource efficient. Green building focuses on the entire life-cycle of a building from choosing a site to implementation of design, construction, operation, and ongoing maintenance. The primary objective of green construction is to minimize the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, materials, and other resources;
- Reducing waste, pollution and environmental degradation[1]; and
- Protecting occupant health and improving employee productivity.

Green building techniques can be utilized in a variety of development environment including urban, suburban, rural, and agriculture. As a result of green buildings, new development can be constructed in a more environmentally friendly manner that reduces costs for builders, residents, and the City.

Decatur has the opportunity to serve an emerging residential market looking for green building – especially growing demographics such as empty-nesters who are looking for open views and less maintenance to younger households that are looking for starter homes, family-friendly environments and a connection to the outdoors.

Focus Area 3: Agriculture Preservation, Urban Agriculture, and Community Supported Gardening

Refocusing and reenergizing development in the urban core and incorporating green building and development techniques for periphery development will assist in preserving the Decatur and Macon County's agricultural productivity. Decatur has long been an innovator in agriculture – tracing back to the original introduction of the soybean- and a leader in agribusiness, and agriculture research and technology.

Building on this rich tradition and history, Decatur can continue its leadership in agricultural, economic development, and food supply. This can be accomplished by building a market for local bioenergy production, and converting acres of conventional agriculture into new crops demanded for energy production. We have a unique opportunity to set a new standard for sustainable agricultural production of bioenergy, utilizing forward-looking techniques and crops that can be tested for production, efficiency, and a reduced "footprint" on the environment by conserving water, and reducing runoff of silt into our streams, rivers, and Lake Decatur.

In the 21st Century, we also have the opportunity to bring the benefits of agriculture and food right into our neighborhoods, through urban agriculture practices. Urban agriculture is the practice of cultivating, processing and distributing food in or around an urban area. Urban agriculture can take place in backyards, rooftop containers, public open spaces, community gardens, or greenhouses. Urban agriculture advances environmental, social, and economic opportunities by providing a direct interaction between consumers and growers, use of residents as workers, use of typical urban waste products (organic waste as compost and stormwater for irrigation), greater social interaction through leisure and recreational opportunities, and a positive impact upon the urban environment.

In addition to urban agriculture, Decatur encourages Community Supported Agriculture. Community Supported Agriculture (CSA) is a community of individuals who pledge support to a farm operation so that

[1] United States Environmental Protection Agency (http://www.epa.gov/greenbuilding/pubs/about.htm)

consumers provide mutual encouragement and a sharing of the risks and benefits of food production. By making a financial commitment to a farm, people become "members" (or "shareholders" or "subscribers") of the CSA. By buying shares, CSAs establish a direct relationship between the food buying public and a farm. Immediate benefits of sustainable, urban/neighborhood and community supported agriculture include:

- Social / Health
  - Dietary variety
  - Fresh food
  - Improved nutrition
  - Food security
  - Leisure and recreational opportunities
  - Community building, vitality
- Environmental
  - Waste management
  - Air and social quality improvements
  - Reduced food related transportation
  - Increased crop diversity
  - Landscape diversity
- Economics
  - Job creation
  - Local economic development
  - Spin-off industries

Key Land 2030 Goals

Targeting the three main focus areas of urban redevelopment, green building, and urban agriculture the 2030 goals are as follows:

- **New development in the "urban core" will account for 60% of the all new development by 2030.**

  Unplanned and unmanaged development outside of the urban core resulting in low-density growth can cause numerous economic and environmental costs. Conversely, development and revitalization in the urban core decreases these costs by reducing infrastructure requirements, reducing Vehicle Miles Traveled, reducing development pressure of agriculture and environmentally sensitive land, increasing pedestrian and transit options, and providing economic development opportunities. Development in the urban core will be possible by developing appropriate strategies to create a market for development.

- **Community supported agriculture and urban gardening will increase in acreage to 300 acres by 2030.**

  Currently there are less than 20 acres in Macon County that are farmed as part of a Community Supported Agriculture (CSA) farm. Community Supported Agriculture is a community of individuals who pledge support to a farm operation so that consumers provide mutual support and sharing the risks and benefits of food production. By making a financial commitment to a farm, people become "members" (or "shareholders," or "subscribers") of the CSA. By buying shares, CSA establish a direct relationship between the food buying public and a farm. Community supported agriculture and urban gardening integrates three main goals: environmental stewardship, farm profitability, and prosperous farming communities. By 2030, CSA acreage will grow by 1,500% to 300 acres.

Key Land 2020 Goals, Strategies, and Projects/Actions

GOAL 1: DECATUR DEVELOPMENT PRACTICES WILL FOCUS ON URBAN INFILL AND REVITALIZATION.

Decatur's recent Comprehensive Plan promotes urban infill and redevelopment, which supports Decatur's existing residential base, reduces the need for costly new infrastructure, provides economic development opportunities, and builds on the sense of community.

There is existing and viable housing stock in the urban core.

STRATEGY 1.1: CREATE A MARKET FOR DEVELOPMENT IN THE URBAN CORE.

A central core strategy is to rebuild the market in the urban core through public and private actions. As a community, we need to ensure that homeowners and businesses will receive a return on their investment in the urban core. Through a variety of techniques, leadership from the public and private sector, cooperation among neighborhood groups, and incentives for private sector investment, the development market for infill can rebuild over time.

One key to obtaining urban development is reducing developer risk.

Projects/Actions

1.1.1 Reduce risk for urban infill development by developing financial and partnership programs to incentivize development and assist financially distressed properties.

Private developers are more likely to take on infill development if they are able to reduce risks or costs to an acceptable level. As a result, the City will see greater success in new urbanized development if they are able to assist infill development by obtaining favorable financing terms or reducing acquisition costs. In addition, success of urban core programs will also depend on a neighborhood with an active and engaged community support structure. The Plan advocates the consideration of the following programs in order to reduce risk for development in the urban core:

a. Establish an Urban Core Development Revolving Loan Fund.

Traditionally revolving loans are used to fund commercial and industrial developments; however some cities have established them to reduce costs or risks for infill housing development. A Revolving Loan Fund (RLF) is a source of money from which loans are made for small development projects, where a low or no-interest loan is made to one person or business at a time and, as repayments are made, funds become available for new loans to other residents or businesses. Revolving loan funds operate, in principle, by issuing new loans as old loans are repaid. Hence, the money revolves from one person or business to another. Although best suited for increasing credit access for development that lack alternative funding sources, many RLF's assist local development that is in need of capital but are financially nonviable to traditional lenders. The objectives for RLF's are to: (1) correct market imperfections, (2) promote activities with a greater social than market value, and (3) stabilize economic activity.

Revolving Loan: Santa Barbara County, CA

Santa Barbara County has established a $2.95 million Revolving Loan Fund. The fund was established in partnership with community lenders for below-market interest rate loans towards affordable rental or homeownership housing projects. Loan funds can be used for site acquisition, predevelopment costs and project construction. Eligible organizations include private and non-profit developers, faith-based groups, public agencies and non-profit agencies. –Source: Santa Barbara County

Though the City, in partnership with the Economic Development Corporation of Decatur-Macon County, has already established a Revolving Loan Fund, the proposed Urban Core Revolving Loan Fund is a specific loan targeted towards urban core development. The Urban Core Revolving Loan Fund should remain independent and separate from the existing Revolving Loan Program. It is essential that the lending criteria and parameters of the fund recognize and understand the local community and are designed to meet the financial solutions that fit the community needs. The Urban Core Revolving Loan Fund can be used for both direct and gap funding and should target acquisition of property, improvement and site preparation, and construction of large-scale residential and commercial developments. The Urban Core Revolving Loan could target specific neighborhoods/areas that are in the periphery of the downtown; one that is supported with an interested neighborhood organization and dedicated residents; and one that has the potential for redevelopment.

Startup money for the Urban Core Revolving Loan Fund can come from Tax Increment Financing, dedication of specific city fees, community foundations, or other public/private sources. The City can use federal CBDG and/or other HUD funds for this loan; however combining CDBG with other funding sources will trigger additional federal requirements. Those extra requirements include complying with FEMA regulations, prevailing wages and documentation, and procurement procedures. As such, the Plan recommends keeping this fund independent of federal moneys and rather use CBDG moneys to provide all necessary infrastructure improvements related to, but separate from the specific project financed through the Urban Core Revolving Loan Fund.

The City should set a financial target such as $250,000 in public funds with a 100% match from outside moneys from community foundations, private entities, and Decatur businesses. For a small fund it is especially important to obtain outside capital because resources are increased when the City develops working relationships with a range of financial providers in the community. Furthermore, outside capital can reduce operating costs and increase fund impact.

While the fund is established by the City, the Plan recommends that the Urban Core Revolving Loan Fund be managed by a local independent entity, such as the Economic Development Corporation of Decatur-Macon County or another community development financial institution. Doing this would lend outside expertise and establish an important public/private partnership.

b. Develop a Land Bank Program or Community Land Trust

In land banking, a governmental or non-profit entity acquires property to later sell or lease for a nominal fee or below market rate price to induce a desired type of development. A land bank can be used as a type of public broker to acquire property such as abandoned or tax delinquent properties or properties sold for taxes. The land bank holds the property and readies it for redevelopment (by clearing the title, for instance). Land bank can include many programs (see Genesee County on the right).

Land Bank: Genesee County, MI

The Genesee County Land Bank Authority has acquired title to more than 4,000 land parcels. The Land Bank has 10 programs: 1). Planning and Outreach, 2). Brownfield Redevelopment, 3). Development, 4). Adopt-a-Lot, 5). Clean and Green, 6). Demolition, 7). Housing Renovation, 8). Sales, 9). Side Lot Transfer and 10). Foreclosure Prevention.

A Community Land Trust is a technique to preserve land for housing, economic development and/or open space by providing ground leases to projects built on the land. Both tools could be used by Decatur to assemble urban land and bring it back to market for housing, commercial development and/or open space preservation.

c. Expand Existing Receivership Program

Decatur currently has a receivership program in which the City is able to place a lien on properties with significant property maintenance code violations. The program allows the City to gain control of a property in order to bring the property back into livable standards and encourage future redevelopment. A receivership program can be an effective solution to stabilize troubled properties and prevent the displacement of tenants. It can encourage existing owners to rehabilitate the property within a reasonable time to meet codes, agree to comply with a specified schedule for razing or rehabilitation, or allow the City to take receivership to encourage redevelopment. The receivership program should prevent property owners from allowing properties to deteriorate, and in the worst cases, assist in land assembly. Assembling small, individual parcels into larger blocks under common ownership can greatly enhance their development potential. The City can use the existing receivership program and work with existing community development corporations or other/public private partnerships to develop those parcels or bring additional resources and assets to development.

d. Develop Infill Fee Waiver Program

This Plan recommends identifying targeted areas of the urban core where the City will waive fees for plan review, building permits, or other specific fees for a limited period of time to incent new private development, additions, or remodeling in an areas that needs reinvestment and upkeep. Even though building permits and fees are not excessively high and might not be a significant barrier to urban redevelopment, providing such a program is another tool to attract development and represents Decatur's commitment to infill development.

1.1.2 Partner with Chamber of Commerce and business community.

This Plan supports the creation of necessary public-private partnerships with the greater Decatur business community, SCORE, Chamber of Commerce, development community, and the non-profit community. The importance of public private partnerships toward urban redevelopment can not be understated. Public-private partnership implies a common understanding of shared goals, a willingness to share responsibilities for their achievement, continuing dialogue on what needs to be done to promote realization, and an ability to leverage private investment to create community benefits. The City should continue the building of public-private partnerships to share responsibly and capacity to undertake regenerating neighborhood improvement efforts. Public-private partnership projects could include an on-going dialogue about overcoming existing policy obstacles to infill development, creation of financial incentives for new development in the urban core, and cooperation with property maintenance. Key elements to partner on include:

a. Urban Core Revolving Loan Fund.
b. Educational Workshops for Landowners on Sustainable Development Techniques.
c. Coordination between businesses, Richland Community College, Millikin University and other workforce training programs on the need for new technologies, green jobs, and sustainable agriculture and industry.

STRATEGY 1.2: SUPPORT NEIGHBORHOOD PLANNING AND IMPROVEMENT

Small investments in property maintenance and neighborhood improvements can lead to significant increases in home values, as well as neighborhood pride. Often it takes a few property owners on a block to make improvements and beautification efforts to their property to encourage others on the block to make similar investments. The City should work in partnership with neighborhoods to define key projects that will jump-start and provide confidence in homeowners, landlords and business owners to invest in their properties.

Projects/Actions

1.2.1 Develop neighborhood plans to identify key projects that will increase homeownership, property maintenance, and quality of life to retain vibrancy of existing building stock.

Neighborhood planning has become an extremely effective means to build local pride, get to know your neighbors, and assist the City and other government agencies to understand the important projects at the neighborhood level. Neighborhood planning can be used to address local issues such as greening a parking lot

at a local school; replacing street lights with attractive; energy-efficient light fixtures; fixing or adding sidewalks; addressing the need for an additional bus route; or creating a safe route to school program.

An inclusive planning process that involves neighbors, churches, local organizations, government agencies and local businesses can prove an effective means to prioritize investments, build trust, and make a visible difference on the ground.

1.2.2 Improve property maintenance.

The purpose of property maintenance ordinances is to protect the properties in residential and commercial neighborhoods by establishing minimum maintenance standards, including:

- Discourage crime and graffiti;
- Maintain or increase property values;
- Encourage quality development; and
- Preserve the quality of life.

Property maintenance must be sensitive to property owners' circumstances, but also recognize the communities greater good to protect property values and eliminate health and safety hazards. Programs that combine early warnings and consistent application of property maintenance codes are extremely important to prevent long-term neglect of properties that may lead to uninhabitability and the need to raze older properties.

Utilize existing property maintenance codes to ensure maintenance of vacant lots.

Proactive programs that combine weatherization, senior citizen homeowner assistance, education to landlords, and workshops for property maintenance may prove very cost efficient relative to loss in property value and the deterioration of older building stock.

Decatur's neighborhoods have a tremendous amount of character, local assets, and solid housing that can be preserved, but it will take concerted efforts of both landowners and the public sector to ensure a high level of maintenance and confidence in landowners of the value of funding improvements to their properties.

1.2.3 Develop a Property Maintenance Neighborhood Match Program.

Establish a property maintenance neighborhood match program that offers small matching grants, ranging from $500 to $5,000, for the purpose of neighborhood property maintenance and beautification. Matching can include cash, donated professional services, donated materials or volunteer labor. The City will need to establish criteria for projects such as:

- Have neighborhood support;

Neighborhood Match: Bellevue, Washington

The Neighborhood Match Program offers grants up to $5,000 for small neighborhood projects when matched by the community in cash, donated professional services, donated materials or volunteer labor.

- Be able to obtain all necessary City permits;
- Be designed for low maintenance or be maintained by neighborhood volunteers or a contractor hired by the neighborhood; and
- Involve residents in all phases of implementation.

Examples of eligible projects for a neighborhood match program could include landscaping and signage for neighborhood entrances, landscaping traffic islands and city rights-of-way, and public art. The City should work with private businesses to sponsor neighborhood projects, where the business works in partnership with the neighborhood on projects but also is able to receive public recognition for such work.

STRATEGY 1.3: MAKE THE NECESSARY MODIFICATIONS TO REGULATORY DOCUMENTS AND THE DEVELOPMENT REVIEW PROCESS TO REMOVE OBSTACLES AND INCENTIVIZE AND ENACT STANDARDS FOR DEVELOPMENT IN THE URBAN CORE.

Local governments must be an active partner in planning and implementation of infill and urban core development strategies. Regulation through the zoning ordinance and subdivision ordinance is a significant tool that the City has to implement planning actions. Such modifications to ordinances should be viewed through the prism of permitting flexible dimensional, use, and design standards and streamlining the review and approval of urban development. Modifications to any regulatory documents should be made in concert with modifications with Macon County and adjacent municipalities' regulations, and as such the City should be proactive in working with the County and surrounding jurisdictions to enact similar regulatory changes.

Projects/Actions

1.3.1 Provide standards-based dimensional, use, and design standards to encourage reinvestment and sustainable design.

Amendments to regulatory changes work to both encourage and reduce barriers to urban infill development. While these amendments may allow for increased density and development potential in the urban core, new development should be of high quality and follow all necessary building, life-safety, and property maintenance codes. The following zoning amendments should be considered:

a. Amend the B1 and B2 Commercial District to allow for mixed use development as a permitted use – with dwelling above the first floor.
b. Amend the R5 and R6 residential districts to allow for mixed use development as a conditional use with special considerations for "contributing structures" within both National and Local Historic Districts.
c. Amend the R5 and R6 residential districts to allow for small, neighborhood scale retail uses as a conditional use.
d. Within Section XI(C) for the B1 District, increase the size requirement from 6,000 to 15,000 square feet that triggers the conditional use process for uses that are permitted if smaller than that trigger size. Eliminating conditional use process expedites the review and approval process and reduces time and entitlement risk for developers.
e. Amend Section XXI(D) to add the R5 and R6 Districts to the list of zoning districts that are allowed exceptions to front yard setback requirements.
f. Add a provision to Section XXIV to allow a reduction in the required parking for urban core development for:
    1. Mixed use development;
    2. Developments in proximity to public transportation; and
    3. Existing on-street parking is adequate.

g. Establish a transfer of development rights (TDR) programs to reduce density in some areas, while increasing density in target urban growth areas. A TDR will allow urban development to receive transfer of development right density from periphery development.

1.3.2 Streamline review and approval of urban development.

Lengthy development review procedures that require several different approvals, by multiple decision-makers and staff reviewers, can add significantly to the cost of a development project. In addition, the uncertainty in the outcomes of the review and approval process adds to the risk of a project. The goal should be to streamline or minimize the degree of processing, so that there are few regulatory hurdles that must be cleared before an infill development can proceed, which allows development in the urban core to better compete with development in the periphery. City actions should include:

a. Provide administrative review and action on permits involving variations for development in the urban core (handled by staff or hearing examiner rather than scheduling hearings before a commission).

b. Assign a single staff contact for urban development.

GOAL 2: NEW DEVELOPMENT AND REHABILITATION IN THE DECATUR AREA WILL INCORPORATE ALL APPROPRIATE SUSTAINABLE NEIGHBORHOOD DESIGN AND PRACTICES.

STRATEGY 2.1: PROMOTE, REQUIRE, AND INCENTIVIZE TECHNIQUES THAT PRESERVE LAND, PROMOTE COMMON OPEN SPACE, AND UTILIZE NATURAL STORMWATER MANAGEMENT TECHNIQUES.

Recognizing that for Decatur to grow both in population and jobs, land will be developed outside of the urban core. However, new development does not have to occur at the expense of environmental protection. For land that is developed outside the urban core it should incorporate specific green development techniques in order to be more resource and environmentally-friendly. The tenet of green development is the practice of creating structures and using construction practices that are environmentally responsible and resource efficient. Sustainable development focuses on the entire life-cycle of a building from siting to design, construction, operation, and ongoing maintenance. The primary objective of green development is to mitigate the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, materials, and other resources
- Reducing waste, pollution and environmental degradation[2]
- Protecting occupant health and improving employee productivity.

[2] United States Environmental Protection Agency (http://www.epa.gov/greenbuilding/pubs/about.htm)

Projects/Actions

2.1.1 Amend Zoning Code to Allow "Conservation Development" as a permitted use in residential zoning districts.

Conservation development, sometimes referred to as cluster development, is a managed growth land use development technique that incorporates the natural landscape and ecology of a development site. Conservation development is a typically density-neutral – meaning that the same number of units would be allowed as conventional developments, but with more common open space in exchange for smaller individual lots. A smaller individual lot does not necessarily mean smaller houses. Principles of conservation development include the protection of natural features, viewsheds, and access to environmental resources; incorporation of BMPs; and less intensive capital infrastructure such as use of shorter, narrower streets.

In many communities, conservation development can be accomplished only through the Planned Unit Development (PUD) process. The PUD process both allows the municipality to maintain control over proposed development and the public to have greater input and review through the process. However, one of the primary hindrances to encouraging conservation development is the time consuming and uncertain outcome of the PUD process. By requiring these types of developments to go through the PUD process, communities (intentionally or unintentionally) create obstacles and an unpredictable approval process.

In order to "level the playing field" and eliminate unnecessary development barriers, Decatur should amend their zoning ordinance to allow "conservation development" as a permitted use if such development meets specific development standards (minimum development size, setbacks, density, common open space requirements, etc). Allowing conservation development as a permitted use reduces developer risk. If the proposed development meets all standards, there is no additional time or expense needed to create a conservation development, thus this type of development can be a real option over a conventional subdivision design. The applicant could also pursue a PUD process for a custom development that does not meet the specific standards, but might still be desirable in the community.

Sample Zoning Ordinance language that Decatur can include to the current ordinance to outline standards for Conservation Design:

1. *Conservation Development consists of residential uses and structures.*
2. *Conservation Development allows a maximum density increase of 25% over the standards established for such uses of the residential zoning district in which they are located.* (note: this language should be included to encourage conservation design)
3. *Conservation Development requires at least 30% common open space (exclusive of land that cannot be developed due to other regulations such as protected wetlands).*
4. *Variances should be considered to allow smaller setbacks and greater height in exchange for larger common open spaces.*
5. *Lots within a Conservation Development shall not be required to meet the minimum lot width or minimum lot area of the residential zoning district in which they are located.*
6. *When abutting a Conventional Development, a Conservation Development perimeter buffer of at least 30 feet in width shall be provided.*
7. *The City should consider if the streets within a Conservation Development can be narrower that required the typical street standards in order to reduce impervious areas. Sidewalk requirements, however, should not be reduced.*

In order to ensure that the common open space is preserved and maintained, the City should consider requiring a performance bond, or other means to ensure the site is built in accordance with standards and is maintained

appropriately over time. Please note that necessary changes to the subdivision code may be required to allow conservation development. For new subdivisions in the periphery, the City and County should encourage a natural resource inventory prior to subdivision and encourage the practice of conservation design and low impact development. In addition, the City should work with the Macon County to amend the County zoning and subdivision ordinance to allow and encourage Conservation Design in unincorporated areas.

Conservation Design Examples
Teska Associates

2.1.2 Connected development

The City should utilize the Development Zone Map in the Macon County/Decatur Comprehensive Plan as a guide for the expansion of sewer and water service, to ensure that future development is strategically compact and contiguous to existing development. The purpose of this is to direct new development into the city where there is already established infrastructure and to reduce the development of urban sprawl. Requiring connected development preserves valuable agriculture and natural land, and maintains the balance of rural and urban land uses in the County. Actions the City should undertake to ensure connected development:

a. Establish agreements between the Sanitary District and the County that strategically consider future sewer extension and the full costs to public agencies of all elements of land development.
b. Review existing annexation agreements to ensure that potentially annexed area allows for connected development.
c. Insert a "Connected Development" standard as part of the review process for any development that requires public review (PD process and conditional use)

2.1.3 Provide assistance for construction of LEED Certified Buildings.

Research has shown that green buildings have higher occupancy rates, higher rent per square feet prices, and higher property values[3]. However, due to lack of understanding and slightly higher development costs, many in the development and construction sector need additional incentives to build green buildings. Decautr has a one existing LEED certified building. ADM-Scovill Hall, home to Millikin's Tabor School of Business, was awarded a Leadership in Energy and Environmental Design (LEED) existing building (EB) gold rating by the U.S. Green Building Council (USGBC) in its building certification program.

In order to promote additional LEED buildings, the City should consider the following incentives:

Fiscal Incentives

a. Establish a revolving loan for green buildings.
b. Provide tax credits or abatements for green buildings.
c. Reduce permitting fees for green buildings.
d. Establish specific fees (stormwater, waste) where collections go towards assistance construction of green buildings.

Process Incentives

a. Reduce permitting time. Reducing the duration of the review and permitting process, in exchange for committing to specific green building standards, can result in significant cost savings for the developer. This allows Decatur to offer a significant incentive with little or no financial investment, since it only requires a shift in permitting priority.

b. Density or height bonus. Allow greater density or height in exchange for the provision of green buildings.

c. Require LEED as "public benefit" requirement of the Planned Unit Development process.

d. Technical assistance. Provide free access to a credentialed green building expert. This assistance may allow developers to become familiar with green building practices.

e. Marketing assistance. Offer free marketing assistance, awards, websites, press releases, and other means.

Tax Abatement for Green Buildings: Cincinnati Ohio

The City of Cincinnati provides a 100% real property tax exemption of the assessed property value for newly-constructed or rehabilitated commercial or residential properties that earn LEED certification.

Joseph A. Steger Student Life Center, University of Cincinnati

photograph by Robert A. Fischel, 2007

[3]Study by Deloitte Financial Advisory Services: http://www.awarenessintoaction.com/whitepapers/getting-the-true-assessment-of-a-leed-certified-buildings-value.html

2.1.4 Amend Stormwater Management Ordinance: (See Stormwater Management Section in Water Chapter 5)

STRATEGY 2.2: UTILIZE PROGRAMS AND DEVELOP NEW PROGRAMS THAT INCENTIVE PROTECTION OF EXISTING STRUCTURES, WITH AN EMPHASIS ON HISTORIC PROPERTIES.

Historic preservation can – and should – be an important component of any effort to promote sustainable development. A century ago with no air conditioning, primitive insulation, and limited electricity designers and builders had to think about the natural environment. Buildings were sited to take maximum use of the sun or shade (heating and daylighting) and wind (ventilating). As a result, older buildings can be surprisingly energy efficient through the use of good ventilation, durable materials, and spatial relationships. In addition, local materials were used in their construction. Most importantly, the immediate advantage of older buildings is that the building already exists; therefore energy is not necessary to develop new infrastructure, create new building materials, or transport those materials. However, for many existing buildings minor modifications must be made to adapt them to compatible new uses. At relative low costs compared to the construction of a new building, systems can be upgraded to meet modern building requirements and codes. This not only makes good economic sense, but preserves Decatur's historic legacy and is an inherently sustainable practice.

Historic Millwork District Revitalization: Dubuque, Iowa

One of Dubuque key economic development strategy was to revitalize the historic Millwork District into a "Model Sustainable District." Utilizing the existing building stock and infrastructure of this historic mixed use district, the goal is to improve water quality, reduce reliance on water supply and wastewater system, and manage stormwater locally; minimize carbon footprint; use locally available resources; use embodied energy of historic warehouse buildings; preserve historical significance; and celebrate and encourage historical and cultural identity.

For more information visit:
www.cityofdubuque.org/millworkdistrict

Projects/Actions:

2.2.1 Expand Historic Districts

Currently, Decatur has 9 structures on the national registry of landmarked properties, 2,088 total parcels in three national historic districts, and 332 total parcels in local historic districts. Decatur should survey neighborhoods to consider expanding existing historic districts or creation of new districts. Historic Districts provide additional preservation protection upon those structures and show a commitment by the property owners, and City towards historic preservation and sustainability.

2.2.2 Assist historic downtown commercial buildings.

Older downtown buildings are ideal models of sustainability. By their very nature, historic downtown buildings

have some unique environmental factors including shared common walls; thicker walls; operable windows, shutters, and awnings; tall and reflective ceilings; skylights; passive solar; and recessed entrances. There is simply no method of construction that is more environmentally responsible than rehabilitating an older building. However many older buildings need assistance for renovation, which can come in the form of fiscal or educational:

Fiscal Incentives

a. Provide small grants for energy efficiency upgrades (see Energy Chapter 6).

b. Provide tax abatements for downtown historic preservation.

c. Work with local organizations or Decatur businesses, such as Green Home Inspections and Energy Audits (http://greenhomeinspections.net/), to offer low cost energy audits for historic downtown commercial buildings.

Educational Incentives

a. Host a workshop in preservation and energy efficient improvements of commercial buildings with local builders and architects.

b. Inform downtown property owners of potential tax credits. For example, encourage downtown commercial buildings to improve energy efficiency. The federal government offers tax deductions for improvements that save at least half of the energy needed to heat and cool the building and reductions for qualifying improvements in the building envelope, lighting, and heating/cooling systems. Landmark Illinois list numerous grant and tax advantages for historic properties on their website: http://www.landmarks.org/incentives.htm

The Shops on Merchant Street are prime examples of viable older buildings

GOAL 3: PROMOTE SUSTAINABLE AGRICULTURE PRACTICES, AND BE A NATIONAL LEADER IN URBAN/NEIGHBORHOOD AND COMMUNITY SUPPORTED AGRICULTURE.

Decatur and Macon County will build upon its rich agriculture history and success. While this plan recognizes that federal policy and the world-agriculture market dictates the growing patterns of large scale farming, Decatur can focus on more localized implementation techniques of urban/neighborhood agriculture and community supported agriculture.

STRATEGY 3.1: CONVERT VACANT AND UNDERUTILIZED URBAN CORE PROPERTIES INTO COMMUNITY GARDENS AND URBAN AGRICULTURE USES.

Community gardens and urban agriculture provide access to fresh produce and plants, as well as provide labor, neighborhood improvement, sense of community and connection to the environment. Furthermore, active garden sites can create a stable force in the community and serve as anchors for other re-development initiatives.

Projects/Actions:

3.1.1 Set Aside Areas of city land that could be used for Urban Agriculture Demonstration Projects.

The City in partnership with the Park District should pick one or more highly visible locations in the city to start an urban agriculture demonstration project to exhibit the capability and techniques of urban gardening. There is no "standard" community garden plot size and plot sizes can vary. For larger gardens in parks 20 ft × 20 ft is a common plot size (larger gardens in parks), while 10 ft × 10 ft or 10 ft × 15 ft is a typical inner city garden lot. Such demonstration project should be a joint public/private partnership with local schools, the business community, and participation by Decatur is Growing Gardeners (DIGG).

DIGG
Decatur Is Growing Gardeners

3.1.2 Advertise and Make Logistical Changes to the Farmers Market in Central Park.

The success of the farmers market in Central Park has been limited due in part to both a lack of marketing and advertising, as well as logistic and layout problems. As such, the following changes to the Central Park Farmers Market should be considered:

Picture courtesy of Decatur is Growing Gardeners

a. Maintain a consistent day of week and time.

b. Launch a direct and vibrant marketing campaign.

c. Alter site logistics and layout. The City should consolidate all farmers market activities to the northwest corner of the park. N. Park Street from Franklin Street to Water Street and the portion of Water Street from William Street to Prairie Street should be closed in order to allow vendors to park their trucks and sell out of the back of their trucks. Vending trucks should park on the opposite side of the street so that the back of their truck and wares for selling face the inside of the park. In addition, other vending sites and booths can line the inside of the sidewalks along the northwest corner of the park. The band shell and plaza can host concurrent demonstrations and live music.

3.1.3 Through the Land Bank Program allow residents to plant adjacent vacant lots.

The City should allow lots that are eligible for acquisition through a Land Bank Program to be gardened, planted, and maintained by interested members in the neighborhood without having to purchase them. The City should make it clear that those lots may be sold in the future for development. See land recommendation 1.1.1b for details regarding the Land Bank Program.

3.1.4 Work with a Macon County Conservation District to manage public community gardens.

The purpose of having Macon County Conservation District manage the public community gardens is to coordinate activities, support neighborhood volunteers who manage community gardens, and provide a one-stop shop for all materials and technical assistance.

STRATEGY 3.2: INCREASE EDUCATION AND OUTREACH TO SUPPORT SUSTAINABLE AGRICULTURE PRACTICES INCLUDING COMMUNITY SUPPORTED AGRICULTURE AND USE OF ALTERNATIVE CROPS.

Projects/Actions:

3.2.1 Provide outreach and assist Community Supported Agriculture.

Over the last 20 years, Community Supported Agriculture (CSA) has become a popular way for consumers to buy local, seasonal food directly from a farmer. In a CSA a farmer offers a certain number of "shares" to the public. Typically the share consists of a box of vegetables, but other farm products may be included. Interested consumers purchase a share (aka a "membership" or a "subscription") and in return receive a box (bag, basket) of seasonal produce each week throughout the farming season. This arrangement creates several rewards for both the farmer and the consumer, including mutual support and sharing the risks and benefits of food production. CSA can play a substantial part in a sustainable future. It has the potential to establish greater environmental vitality in Decatur, and to extend basic, healthy linkages among the people who make up the community. Potential projects for the City to consider:

a. Create a directory for local CSAs.

b. Assist in advertising for local CSAs.

c. Create a central city location such as Central Park in the summer and the Civic Center in the winter to allow for CSA drop off and pick up.

3.2.2 Work with the Illinois Stewardship Alliance to create a marketing campaign to encourage residents, restaurants, and grocery stores to purchase localized food, herbs or other agricultural products.

The average food item travels between 1,500 to 2500 miles in the U.S[4]. Expansive food travel distances increase food prices, causes environmental degradation, and reduce the quality and nutritional value of food. Conversely, the advantage of local food are numerous including local produce tastes better, have more nutritional value, supports local farm families, protects genetic diversity, preserves open

[4] The WorldWatch Institute "Home Grown", 2002

space, and supports a clean environment. Currently the Illinois Stewardship Alliance is marketing a "Buy Fresh, Buy Local" campaign for Central Illinois. The City should partner with the Illinois Stewardship Alliance to:

a. Create a directory for finding locally grown food including: farmers markets, meat lockers, u-pick operations, as well as farms and businesses who sell locally grown products directly to consumers.

b. Expand upon the Central Illinois a "Buy Fresh, Buy Local" and create a Decatur label for use in grocery stores and restaurants to identify locally grown products.

c. Assist in advertising for restaurants and grocery stores that use and sell local products. Encourage the local grocery stores and restaurants to purchase more products from local farmers.

3.2.3 Recognizing the federal policy and world-agriculture market dictates the growing patterns of large scale farming, Decatur should work with the Macon County Farm Bureau and Macon County Soil and Water Conservation District regarding education and outreach for sustainable agriculture practices including use of BMPs and alternative crops.

STRATEGY 3.3: PRESERVE VALUABLE AGRICULTURE LAND.

In partnership with Macon County and the Macon County Farm Bureau, it is important for the region to protect soil-rich agricultural land and the cultural and economic well-being of the area. Benefits of implementing agriculture preservation tools include:

- Maintaining the valuable agriculture land for ongoing food production;
- Reducing development pressure on protected farmlands;
- Providing an area for stormwater infiltration and groundwater recharge;
- Protecting rural character; and
- Generating more in tax revenue than spent on for public services.

The City and County should amend their zoning and subdivision code to ensure that proper development regulations are in place to secure an economic return on farm land while maintaining it for agriculture use.

Projects/Actions

3.3.1 Design a model a Open Space Development Utilizing Perennial Grass Bioenergy Production

The project could be expanded to consider a test project of how to incorporate perennial grass production in conjunction with conservation development. A perennial grass subdivision could be designed and developed similar to a "golf course community without the golf course," providing permanent views of protected, productive lands, to clustered homes catering to households who do not want to take care of large, private lawns.

3.3.2 Work with County to Develop a Transfer of Development Rights (TDR) program.

Transfer of Development Rights (TDR) is a farmland preservation tool that has been used by local governments to preserve valuable agricultural land. TDR programs allow landowners to transfer the right to develop their parcel of land to a different parcel of land. TDR is used to shift development from agricultural areas to

designated areas closer to municipal services by selling the development rights of agricultural land to an eligible property in an area with municipal services. The "sender" land would is permanently protected through a conservation easement.

A Transfer of Development Right program and Agricultural Designation Areas can be utilized to save farms such as this.

3.3.3 Utilize Agricultural Designation Areas

Agricultural Designation Areas are another tool in farmland protection. The Illinois Agricultural Areas and Preservation Act provides for the designation of "Agricultural Areas", which allows one or more landowners for land in totality of over 350 acres to voluntarily place their land into a protected district with the approval of the local county board. Agricultural Designation Areas help protect landowners from local ordinances that might otherwise interfere with normal farming practices, protection from special benefits assessments, and protection from locally initiated projects that would lead to the conversion of the land to other uses. However, they do not exempt farmers from nuisance suits or from following approved best management practices. The Agriculture Designation Area is an important public declaration that the county and the landowner feel agriculture is important to the community and still a viable industry in that area. Creation of Agricultural Designation Areas is a strategy outlined in the Comprehensive Plan.

GOAL 4: PROMOTE THE PRODUCTION OF PERENNIAL BIOENERGY CROPS IN ORDER TO IMPROVE WATER QUALITY, PROVIDE A RENEWABLE ENERGY RESOURCE, AND CREATE ECONOMIC DEVELOPMENT OPPORTUNITIES.

STRATEGY 4.1: CREATE A MARKET FOR SUSTAINABLE BIOENERGY PRODUCTION.

Production of bioenergy grasses offer significant water quality improvements, provide a renewable energy resource and create a viable economic opportunities. The Decatur region must focus on creating a market for sustainable bioenergy production as the perennial grass goal is contingent on incentives (federal, etc.) and must be economically feasible to the landowner.

Projects/Actions

4.1.1 Target the development of 10,000 acres as perennial energy grasses, grown mainly in locations such as erodible or wet areas.

Developing in these areas can provide significant soil, water, and wildlife benefits without taking prime row crop land out of production.

4.1.2 Investigate programs to compensate farmers and landowners for environmental benefits of perennial energy grasses including carbon credits, soil and water conservation, and wildlife habitat.

Introduction

Examining Decatur's Waste/Recycling program is a key component of the Decatur Sustainability Plan. The very essence of recycling is about sustainability as the common understanding of recycling is the use of waste as a resource to manufacture new products. Reducing "landfill waste" includes three components:

- Reduce the amount of trash thrown out (landfill);
- Reuse products as much as possible' and
- Recycle items that can be resourced into new products (paper, glass, cardboard, etc…).

Organization of "the 3 R's" is an important component to any waste management plan, however most municipalities tend to focus on recycling because of its alignment with standard municipal waste removal operating procedures. Like other sustainability issues, recycling has benefits that cross over into other issue areas, including energy, climate change, economic development and land use. The U.S. Environmental Protection Agency cites financial, social and environmental benefits of recycling that have impacts across several key subject areas of the Plan[1]:

Providing recycling options to reduce landfill waste

- Recycling protects and expands U.S. manufacturing jobs and increases U.S. competitiveness.
- Recycling reduces the need for landfilling and incineration.
- Recycling prevents pollution caused by the manufacturing of products from virgin materials.
- Recycling saves energy (e.g. recycling aluminum takes 95% less energy than making it from virgin materials).
- Recycling reduces emissions (49 million metric tons in 2005).

[1] http://www.epa.gov/epawaste/conserve/rrr/recycle.htm

- Recycling decreases emissions of greenhouse gases that contribute to global climate change.
- Recycling conserves natural resources such as timber, water, and minerals.
- Recycling helps sustain the environment for future generations.

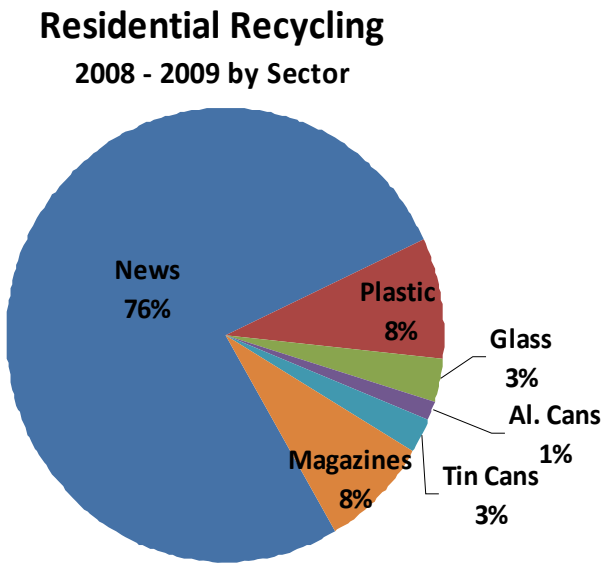
To further highlight the importance of recycling, the State of Illinois in the late 1980's passed two solid waste laws, the Solid Waste Management Act (SWMA) and the Solid Waste Planning and Recycling Act (SWPRA). The SWMA set goals for state agencies to recycle 50% of wastepaper, newsprint and corrugated containers and to purchase a similar percentage in recycled paper products. The SWPRA mandates that each county create a waste management plan that emphasizes recycling and landfill alternatives. Each plan must include recycling that diverts 25% of waste from landfills.

Over the course of the planning process for the Decatur Sustainability Plan, the Working group, which was made up of City Staff and other stakeholders, identified the following key strategy areas:

Strategies to reduce waste going to landfills, in order of importance to the Working Group, were:

1. Increase recycling practices.
2. Increase community education and outreach.
3. Reduce waste at the source.
4. Encourage use of recycled products.
5. Embrace beneficial reuse.
6. Establish a volunteer database for sustainability projects.

In order to develop waste/recycling strategies it is imperative to collect and analyzing measurable waste and recycling data. As such, the Macon County Environmental Management Department provided data that suggests the county has reached a recycling rate of over 50% for the past two years. While the data includes solid waste collected from municipalities (residential, municipal, some commercial and no industrial) a breakdown by municipal jurisdiction was not available. There is no discernable way to determine how much solid waste is generated and goes to landfill for Decatur. A lack of data for Decatur hinders data analysis and goal setting. The City should work with the County to determine how to calculate solid waste collection within its jurisdiction. In addition to recycling numbers, Macon County also collects yard waste countywide—including Decatur--and provided number for both. However gaps in this data provided from 2006 to 2009 make analysis difficult. Decatur should acquire missing data and also gain an understanding of how yard waste is collected, measured and sold/used, within the county and beyond.



While the County collects solid waste data, Decatur provides its own recycling services single family residential. As such Decatur's data for its curbside recycling program is fairly detailed and provides a comprehensive breakdown of types of materials being recycled, and enough information to calculate a participation rate. However, data for recycling in the commercial and industrial sector (including schools and businesses) is limited to weight in tons and number of customers in a two quarter period, as provided by Midwest Fiber. In order to assist in data collection and goal setting, the City should work with all private

hauling and recycling companies to provide more detailed data reports on a regular basis, especially if the company is considered a preferred service provider in Decatur. At a minimum, data should include recycled materials in pounds (or tons), breakdown of types of materials recycled, number of participating businesses per quarter (by unique customer, not by number of pickups), total number of scheduled pickups per quarter, and average number of scheduled pickups per customer. Assuming each customer is billed by weight, one can safely assume that all of this information is available.

Establishing data protocols with partnering agencies is necessary in order to develop measurements to analyze whether or not Decatur meets its goals. However, the existing recycling program and rather low participation rate are clear indicators that regardless of whether or not Decatur has a complete analysis of data, there is work to be done in advance of additional data collection and analysis.

In the proposed strategies and projects below, it is important to be clear about who is being targeted for recycling programs and what kinds of recycling efforts are being made.

- Who: Decatur currently provides recycling services for single family homes, and a call-in service is available for schools and businesses, though it doesn't appear to be heavily used. Recycling options should be offered to different sectors, and should take into account issues unique to them, including space for recycling bins, hours of operation, ease of integrating recycling habits into standard operating procedures.

- What: Recycling is very broad in scope, yet the average person tends to simplify it as just recycling paper, aluminum, plastics and cardboard. The City should deliberately address the different areas in recycling (e.g. waste, single stream recycling, food waste and yard waste) by targeting specific consumers with different messages. For example, while the typical household may generate enough food waste for a small composting bin, restaurants and schools may experience much larger benefits from participating in a comprehensive food composting program.

2030 Goals

- **Waste going to landfills will be reduced by 50% by 2030.**

  In 2009, the total weight of waste for Macon County going to landfills was 172,542 tons. Setting a target of reducing waste by 50% to 86,271 tons can be accomplished through increased recycling, increased material reuse, increased yard waste reuse, and reducing waste generation through the initiation of a composting (food waste) program and other efforts.

Key Waste/Recycling 2020 Goals, Strategies, and Projects/Actions

GOAL 1: *REACH OUR REGION'S FULL POTENTIAL FOR RECYCLING*

STRATEGY 1.1: INCREASE RECYCLING PRACTICES.

The primary action required to reduce the amount of waste going into landfills is to significantly increase recycling participation. As indicated in the Decatur Baseline Analysis, only about 14-15% of Decatur residents participate in the City's recycling program. Furthermore, this will probably rise dramatically at the onset of single stream recycling, which is expected to occur in the coming year or two.[2] However, currently an official City recycling program does not exist beyond single family residential—no multi family units, commercial, industrial and even institutional. Those sectors buildings can contract with private hauling and recycling companies for recycling pickup, however only on a call in basis. In the last quarter of 2009 and first quarter of this year one private hauling and recycling company, Midwest Fiber, reported just 204 customers. Clearly, there is room for major advances, both in the recycling program as it currently exists, and by including other sectors beyond single family residential. Success in this strategy area alone could easily achieve the goal of reducing waste that goes into landfills by 50%.

Projects/Actions

1.1.1 Improve existing residential waste and recycling collection procedures.

The current recycling program only serves the single family residential sector and over the past 5 years has experienced a rather low participation rate compared to the national average of 24%. Below are projects and actions that will help improve the current recycling program.

a. Investigate volume based garbage collection rates.

If Decatur wants to increase recycling and reduce waste that goes to landfill, one strategy is to increase collection costs for waste collection (and encouraging/rewarding recycling by collecting that for free.) Often times, cities are still charging for recycling instead of trash, thereby unintentionally penalizing those who are recycling.

Known as "Pay-as-you-throw," many cities are now implementing unit pricing to encourage consumers to realize the social costs of the waste they generate and to only create the amount of waste they are willing to pay. In Aurora, Illinois each 32- gallon garbage container requires a $2.60 waste sticker that can be bought at city hall, local stores, or at the garbage company's headquarters. Bloomington, Indiana offers tiered pricing, enforcing per-unit collection costs of $2 for trash, $1 for yard waste and no cost for recycling. Both Urbana and Quincy, Illinois have similar programs in place, as do the communities listed here: http://www.epa.gov/osw/conserve/tools/payt/states/contacts.htm. The US Environmental Protection

[2] The City of Decatur initiated an RFP for the development of a single stream recycling process. Single stream allows consumers to put all recyclable materials in one container, by far the easiest approach. Nationwide, switching to single stream recycling has shown to increase participation rates almost immediately.

Agency provides research on lessons learned from various programs across the country (http://www.p2pays.org/ref/02/01914.pdf .)

b. Investigate the elimination of back door service and twice-a-week service.

"Extra" waste collection services are becoming obsolete because they require additional workers/hours, and more trucks out on the street for more hours. From an energy standpoint, less hauling means less fuel consumption and vehicle miles traveled.

c. Investigate limiting the collection of yard waste (and encourage composting at residential scale and/or existing county composting.)

Decatur should investigate limiting the collection of yard waste in order to encourage composting. While the county has a comprehensive program, residential consumers should be educated on the benefits of yard waste composting, how to do it (including demonstration projects), and provided with the necessary resources to do it themselves.

Decatur will be switching to a single stream recycling approach that is an easier "all-in-one" approach for participants. Recycling rates often rise quite dramatically.

d. Create incentives for recycling participation.

Creating an incentive program will increase participation while also exposing more people to recycling education and getting into the habit of recycling practices. "RecycleBank" is one such program that allows participants to earn points that can be redeemed at thousands of businesses. (www.recyclebank.com or http://www.recyclebank.com/how-it-works)

1.1.2 Expand recycling options beyond residential recycling to include other sectors.

Expanding recycling options to other sectors is extremely important in the effort to increase recycling, especially when considering the impact of all schools and other institutions, multi family (approximately 23% of all residential units) and thriving commercial/industrial community. If Decatur added these untapped sectors to its recycling program, or partnered with an agency or a private hauling and recycling company, recycling could be a viable option for all sectors in the City, and would significantly decrease the amount of waste that goes into landfills.

a. Research the potential of requiring businesses to recycle as part of annual licensing (e.g. liquor licensing.)

b. Develop recycling guidelines for standard municipal staff operating procedures.

Decatur should consider the development of a municipal "green team" made up of representatives from different City departments to examine its in-house recycling procedures, among other in-house municipal sustainability goals outline in other areas of this Plan. The Town of Normal, IL created a green team to examine both in-house and community-wide practices in sustainability, and developed recommendations for action. Instituted recommendations include the use of

electronic copies in place of hard copies for meetings, changing default printer settings to double-sided, and the reuse of paycheck envelopes.[3]

Expanding to the larger community, Portland Metro's Recycle at Work Program provides its businesses with free recycling boxes, posters, information about recycling, and recycling specialists to work with current custodial staff and a "Green Team" to create acustomized recycling strategy and program.[4]

c. Research requiring recycling for all sectors.

Mandatory recycling is not a new concept in the United States or even Illinois. Beginning in 1997, Kane County (northeastern Illinois) requires all commercial establishments to recycle the two largest recyclables in their garbage. Garbage haulers cannot collect waste from an establishment that is not recycling. Owners of multi-family buildings must provide recycling service to the occupants in their buildings. Violators are fined $25-$100 per day in violation.[5]

Portland, Oregon requires that multifamily property owners provide recycling drop-offs that are as accessible as trash dropoffs and that recycling information is provided to tenants within 30 days of move-in and then on an annual basis. The city offers free signs, magnets, and posters. Recycling representatives are available to hand-deliver the materials and meet with tenants.[6]

Free signage for landlords to share with tenants in Portland, Oregon.

d. Coordinate recycling efforts with non-profit, business, public sector organizations.

Whether recycling is required or not, there are many best practices from across the country that incorporate the business community. For example, shared-commercial recycling provides shared recycling centers for commercial areas with little space or access for recycling containers. For example, Ojai, California, created a joint assessment district for their downtown redevelopment area, which provides a shared common area for waste and recycling services for commercial establishments that would otherwise lack convenient access to recycling. In addition, the district funds ongoing maintenance, including trash and recycling services. The City's waste hauler offers a tiered fee structure for the commercial establishments to encourage recycling.[7]

Seattle's "Fantastic Three Program": recycling, composting and waste.

[3] http://www.normal.org/Files/GreenTeamReport.pdf
[4] http://www.recycleatwork.com
[5] http://www.co.kane.il.us/Environment/recycle/index.htm
[6] http://www.portlandonline.com/bps/index.cfm?c=45517
[7] http://www.ca-ilg.org/node/1634

Tiered fee structures are an approach that works well for business recycling programs. The City of Fresno, California made recycling for commercial establishments mandatory and offered a tiered trash pickup fee with significantly lower rates for recycling pickup than trash pickup. Citywide diversion rate (rate of waste diverted from landfill) climbed from 32% to 62%.[8]

1.1.3 Expand recycling to include other recyclable materials.

Traditional recycling includes paper, glass, aluminum and plastics. However, both food and yard waste are recyclable, but still often end up in landfills—and unnecessarily so. Below are some potential actions that Decatur should consider.

a. Consider collecting residential food waste and creating a program to offer composting bins.

   San Francisco is the first to offer curbside composting in the United States. The Fantastic Three Program provides residents with three pickup containers; for trash, recycling and composting (yard waste and food scraps). Larger sized composting and recycling containers are available at no extra cost, but larger trash containers require an increased monthly fee. The organic materials are sold to farms and vineyards across the state after 60 days of processing.[9]

   In Lake County, Illinois (northeastern Illinois), the county's solid waste management team developed a compost bin program that allows residents on a first come, first serve basis to buy bins at a highly reduced rate. Coupled with education, residents can easily and effectively divert up to 500 pounds of waste from landfill each year.[10] The City of Santa Cruz, California offered reduced cost composting bins by partnering with local businesses.

b. Create program to expand materials collection for recycling of construction debris (shingles, silt, paint and other construction debris).

   The current economy has slowed the construction industry considerably over the past few years. As such, now is a good time to analyze construction habits, specifically recycling, and put new sustainable practices in place. The City should consult with a trusted group of builders and other stakeholders during this process to develop local buy-in. One example of a construction debris recycling program is from the City of Stockton, California. Recognizing its state goal to reduce landfill by 50%, the City passed a "Construction and Demolition Debris Ordinance" that requires contractors to divert 50% of all project waste generated, by weight, from landfill. Contractors must complete a recycling plan before obtaining a building permit, and upon project completion must file a report outlining their compliance. The program supplies helpful information including a list of approved recyclers and the materials each company will recycle.[11]

c. Establish program to compost food waste from cafeterias and restaurants.

   Very large amounts of food waste are generated in schools, hospitals and restaurants. Decatur should consider developing a program to address these sectors. Here are some best practices from across the country:

[8] http://www.ca-ilg.org/node/1624 and http://www.fresno.gov/NR/rdonlyres/9112A6F3-33A3-428E-9762-6EBC0E0523B7/0/ZeroWasteStrategicActionPlan.pdf
[9] http://www.sunsetscavenger.com/residentialServices.php
[10] http://www.lakecountyil.gov/swalco/programs/compostbins.htm
[11] http://www.stocktongov.com/recycle/pages/CDprogram.cfm

The City of Portland, Oregon encourages a composting program, Portland Composts! that allows businesses with high amounts of food waste and paper (e.g. grocery stores, restaurants, and institutional kitchens) to send food waste to a composting facility. Compost can be bought in local stores and the business can gain recognition of composting efforts by displaying a sticker in their window.[12] Another program out of Portland is Portland Metro Program, Fork It Over! which donates surplus food from businesses to local food shelters, reducing waste hauling costs for the business and providing tax deductions.[13] In yet another project, three schools in Portland began pilot programs allowing children to pick parts of their meal rather be served than the traditional fully pre-packaged meal. Food waste decreased as well as an increase in reusable materials from students who brought their lunch through education that was partnered with the program.[14]

Locally at the University of Illinois at Urbana-Champaign, a student-run farm that produced 20,000 pounds of produce for campus dining halls in 2009 is developing a composting program to return organic waste back to the farm.[15]

Lastly, a Ventura County, California elementary school set a goal of zero waste generation during lunches and snack activities by creating school-wide mandates prohibiting non reusable lunch containers, paper napkins, and non-recyclable drink containers. Trash generation has been reduced by almost 90%.[16]

A Portland restaurant participating in the composting program.

1.1.4 Collect, monitor and analyze waste and recycling data.

As mentioned in the introduction section of this chapter, it is crucial to establishing data collection with Macon County, Midwest Fiber and any other agencies that service Decatur residents, businesses and institutions. Having complete data will allow the City to measure its progress over time, both in reaching the overall goal, and in specific projects and actions.

a. Establish a comprehensive data center for waste and recycling for Decatur and the surrounding area.

[12] http://www.portlandonline.com/bps/index.cfm?c=41682
[13] http://www.oregonmetro.gov/index.cfm/go/by.web/id=749
[14] http://www.calrecycle.ca.gov/ReduceWaste/Schools/food/OfferServe.htm
[15] http://news.illinois.edu/ii/09/0507/sustainability.html
[16] http://www.calrecycle.ca.gov/ReduceWaste/Schools/Models/default.htm

b. Provide comparison data with cities similar to Decatur (e.g. what works and what doesn't, benefits of recycling.)

The nearby cities of Springfield, Champaign and Urbana all have recycling programs and may offer some best practices and new concepts that are applicable to Decatur. Here are just a few ideas of programs that are already in place in these communities:

	Single Family Recycling	Multi Family Recycling	Commercial Recycling	Waste Hauling	University Recycling
Champaign	Yes; not mandatory (free)	Yes, mandatory (will begin in late 2010)	No (unless through private owners and contractors)	Does not provide waste hauling or "garbage service"; requires contracting with private haulers	(UIUC-see below)
Urbana	Yes, not mandatory but all owners pay small recycling tax	Yes, mandatory that owners supply cart, but tenants not required to recycle	In talks with waste hauler to mandate commercial recycling.	Volume-based pricing, increases with more waste	(UIUC) Waste Transfer System- Diverted landfill costs: $200,000 Recycled Commodities revenue: $500,000
Springfield	Yes; not mandatory (free)	No (unless through private owners and contractors)	No (unless through private owners and contractors)	Monthly fee based on number of containers	(UIS) Recycles 76 tons annually

STRATEGY 1.2: INCREASE COMMUNITY EDUCATION AND OUTREACH.

Similar to energy efficiency, many people understand in some respects that recycling is important, and mainstream media has engrained the pictures of overtopped landfills and barges filled with garbage floating down rivers, but there is little connection to recycling and its benefits. A broad-based sustainability campaign that encompasses recycling (and other issues including energy, transportation and water) should connect the "big picture" benefits of recycling in Decatur, the region and even nationally, with individual action and responsibility. Again, when requesting behavior changes to occur, it is important to communicate the following:

Children learning about composting in their community.

- Why should we take action?
- Who should take action?
- How is it done?
- What is the expected outcome and benefits for me? My community?
- Are there any costs, upfront or hidden?

It is also important to consider multiple audiences and crafting messages specific to them, including single family, multi family, small business, large commercial, and institutional.

Projects/Actions

1.2.1 Establish a volunteer database

There is already a network of interested stakeholders in Decatur as evidenced in the number of people expressing views and opinions in the planning process for the Decatur Sustainability Plan. The City should take advantage of this already-engaged group of people and continue with focus group meetings and engage them in action projects as outlined and approved in this plan whenever possible.

a. Create a program to involve schools (community service hours)

Schools are an excellent place to incorporate community education and outreach, and in particular, recycling and other sustainability issues like energy efficiency. There are already curriculum-based activities and lesson plans available, and often times in varying age-appropriate capacities. The Illinois Department of Commerce and Economic Opportunity regularly provides classroom materials, case studies information and a host of other resources for classroom learning in Illinois.[17] Another benefit of involving schools is that children often take home lessons learned and begin to apply them at home.

A young student learns new everyday habits at school.

1.2.2 Develop business program that recognizes/rewards businesses that recycle

A new recycling program, regardless of what sector, may require some sort of incentive to encourage participation, especially if the program is not mandated. In an analysis of its commercial recycling program and the need to revise its approach, the Borough of Forest Hills, Pennsylvania concurs that in addition to a very well-thought out communications and outreach plan, an incentive program that rewarding participating businesses is ideal. They suggest providing "we recycle" stickers for all participating businesses, and holding (and profiling) monthly drawings with prizes. The projects below were also highlighted by the Waste/Recycling Working Group:

a. Reward businesses that recycle.

b. Recognize/reward business that recycles the most.

[17] http://www.commerce.state.il.us/dceo/Bureaus/Energy_Recycling/Education/ISTEP_program.htm

1.2.3 Develop/implement public education program utilizing local media, TV, newspaper, neighborhood organizations, websites, and online social media (conscious shopping, recycling, etc..)

Potential actions to consider are:

a. Highlight the benefits (individual and collective) of recycling.

There are both individual and community-wide benefits to recycling. Here are just some of them that may serve well in a communications effort:

Individual	Community (or Larger Scale)
Decrease household costs (in "pay-to-throw" communities	Helps conserve limited resources
Feel good about earth-friendly habits (business: advertise your "earth friendliness"	Energy efficient
	Costs less than waste processing + landfilling
	Creates jobs in the U.S.

b. Educate consumers and businesses about the need to reduce waste.

c. Educate regarding financial and environmental costs of single use items and packaging.

d. Involve schools (e.g. K-12 education; colleges).

1.2.4 Develop networking program/opportunities between local and regional organizations (working group continue meeting beyond planning process)

a. Waste and Recycling Working Group should continue meeting beyond the Decatur Sustainability Plan planning process.

As mentioned above, the City should continue engaging the already organized group of stakeholders, working to add more people when appropriate.

GOAL 2: REDUCE WASTE AT THE SOURCE AND AT THE CONSUMER LEVEL.

STRATEGY 2.1: REDUCE WASTE AT THE SOURCE AND AT THE CONSUMER LEVEL.

While recycling is an important component of Decatur's sustainability efforts in waste management, it is extremely important to engage residents and businesses in the concept of reducing waste altogether by considering the following waste reduction messages:

- *Buying and using less*. Buy only what you need, and use all of what you buy. This is especially important in hazardous household items like paint and cleaners.
- *Less packaging*. Avoid wasteful and unnecessary plastic and paper in packaging, opting for products that package their products primarily for the protection of the item instead of the added fluff designed

to attract you from other brands. Avoid single-serve containers, buy concentrates and in bulk, and aim for packaging that can be recycled whenever possible.

- *Skip the plastic bags.* Use cloth bags whenever possible. If you must use a plastic bag, reuse it or take it back to the store for recycling.
- *Durable over disposable.* Disposable items like plastic forks are convenient for those lunch meetings, but aim for durable silverware whenever possible. Same for household items, like razors. If you're feeling especially bold—cloth diapers!
- *Avoid junk mail.* Remove yourself from unwanted mailing lists.
- *Online billing.* Opt in to online bill payments and statement delivery whenever possible.

A school's zero waste lunch program utilizes reusable packaging, reusable silverware and less food packaging than what is typical.

Projects/Actions

2.1.1 Research and develop green meeting/conference policy that reduces waste.

a. Research green meeting/conference policies and include recommendations on recycled handouts, double-sided paper, reusable badges, signage and paper products, and reusable food service. Highlight local business partners and sponsors when possible.

Municipalities and agencies are beginning to think about the resources used and often wasted at meetings. There are numerous examples online for simple meeting procedures that embrace the US EPA's "reduce, reuse, recycle" mantra:

- Reduce
  - ✓ Use electronic program brochures, registration, confirmation procedures.
  - ✓ Make presentations and handouts available online
  - ✓ Double-sided handouts, if handouts are required
- Reuse
  - ✓ Use reusable name badges
  - ✓ Use reusable signs and directions
  - ✓ Avoid buying new supplies for every meeting
- Recycle
  - ✓ Remove unused paper/documents for reuse in your office (or recycling)

2.1.2 Review and revise municipal procurement policy to include guidelines/requirements for recycled paper purchasing.

a. Research procurement policies in other communities and develop best practices for procurement policies both nationally, and in the surrounding area.

2.1.3 Find markets for the compost and mulch and other environmentally friendly products generated in our county.

a. Research successful yard waste collection and composting programs from across the country and note their successful re-use of mulch and composting within their immediate jurisdiction and surroundings.

b. Identify potential consumers for mulch and composting in the Decatur area.

2.1.4 Regulate use of environmentally unfriendly products (e.g. plastic bags, Styrofoam.)

a. Research policies that aim to eliminate environmentally unsafe products and present recommendations to appropriate groups/departments.

GOAL 3: ENCOURAGE USE OF RECYCLED PRODUCTS.

STRATEGY 3.1: ENCOURAGE USE OF RECYCLED PRODUCTS.

In addition to recycling products, it's just as important to buy recycled products or "post-consumer content" in order to create demand for recycled products. Recycled products in paper, aluminum, glass and plastic are some of the most common items. Decatur should include the purchase of recyclable products in its municipal purchasing policies and provide information in all educational campaigns. It is also important to note the following about labels on "recycled" products:

- Recycled: It's either 100% recycled, or it must provide exact percentage of recycled material. These products are made from materials that have been recovered from waste.
- Post-consumer: Includes materials that are from already used products, such as plastic bottles, glass containers, aluminum cans, and newspapers. A notebook that is "50% post-consumer material" has half of its content from recycled substances.

King County, Washington reminds people about "closing the loop" by also buying recycled items.

- Pre-consumer: Is comprised of materials from manufacturing waste. A soda pop bottle manufacturer might recycle plastic remnants and recycle them into "new" bottles.
- Recyclable: A product is not recyclable if recycling is not available in your community. For example, if glass is not an accepted recycling material, it doesn't matter how recyclable it is if you can't have it collected or drop it off anywhere for recycling.
- Eco-friendly/Environmentally friendly: Beware! Learn specific information on how a product is any of these things. It is now often used as a marketing ploy without meaningful information to support the claim.

Projects/Actions

3.1.1 Develop a program to pursue economic development opportunities through sustainable business development (e.g. recycled products, by-products)

a. Create a local buying guide.

3.1.2 Research and develop incentives and requirements to encourage more LEED and green building projects.

a. Identify successful programs nationwide in communities with characteristics similar to Decatur in terms of housing stock, projected growth (residential and commercial), size and community character.

GOAL 4: EMBRACE BENEFICIAL REUSE.

STRATEGY 4.1: EMBRACE BENEFICIAL REUSE.

The concept of beneficial reuse is to reuse waste from one industry or company for the benefit of another industry or company. Decatur should identify potential sources of industry by-product for potential reuse locally or regionally. There are companies who exist for the sole purpose of identifying potential by-products and connecting them with other partners/users.

Projects/Actions

4.1.1 Research options and develop an information clearinghouse and network for reuse of waste.

Promote existing networks like Freecycle and research opportunities for larger scale partnerships between large industries/companies and consumers.

4.1.2 Develop and support a market for reuse of by-products (based on heath and safety research).

Sustainability is a multidisciplinary concept that considers the various elements of water, energy, land, and waste/recycling holistically in order to improve the natural environment, promote the wellbeing of the community, and increase the region's economic development potential. In order for Decatur to be leader in sustainability, it is important for the City and its partners to focus a few key projects that will combine multiple projects/actions within the four elements that have been previously discussed. These are high priority projects that while may time to implement and see results, they should be a near term focus of the City and the region.

1. URBAN CORE DEMONSTRATION PROJECT

In order to incorporate sustainability techniques in an urban environment, as well as establish a market for urban core development, the City should target one or more existing urban neighborhoods for a targeted, multi-project/action approach. The criteria for the selected urban neighborhood could include:

1. Built-up urban neighborhood;
2. Active residents and neighborhood association;
3. Local organizations, churches, schools, and other partners that may want to participate;
4. Environmental assets and issues that can form a basis for action, including possible flooding issues, opportunities for open space and/or commuity gardening, opportunities for innnovative water demonstrations such as rain gardens, disconnecting gutters from storm sewers, rain barrels, etc;
5. Eligible for CDBG, TIF, or other revenue sources;
6. Opportunity for weatherization, energy assessments, energy audits; and
7. Bus route and bike routes existing or planned in area.

Targeted strategies will show cumulative changes in a specific geographic area and allow the City to gather data to show improvements over time, capital cost reductions, property value increases, energy savings per household, reductions in flooding incidents, water quality improvements, recycling rate improvements, and waste reduction.

Neighborhood Plan

Fundamental to a successful urban core project is beginning with the development of a neighborhood plan. A neighborhood plan should focus more on community organizing and prioritization rather than a traditional, more technical document. It involves a substantial recruitment effort of local stakeholders – residents, churches, schools and non-profit organizations. An existing organization or new steering committee that involves all local interests should be designated as the "lead agency" for the planning and implementation effort. The City or consultant would provide on-going support to draft the plan, but it would need to be in the language and goals of residents and other stakeholders. The process, typically lasting 6 months, can have huge cost savings and greater impact by getting everyone on the same page, leveraging resources, and having a unified plan to seek additional resources.

As part of the neighborhood planning process, the following targeted strategies and projects should be considered by the steering committee:

TARGETED STRATEGIES AND PROJECTS/ACTIONS

1.1 Incorporate naturalized stormwater management techniques.

The City of Decatur has developed a capital program to address flooding, especially in the outer periphery of the urban core. Recognizing that major capital projects are planned for the future in these areas, short term improvements through the introduction of Best Management Practices (BMP) can be undertaken now to address some of these flooding issues, as well as present a more environmentally-friendly demonstration on how to manage stormwater. Well designed BMPs can minimize damages associated with flooding and prevent the degradation of aquatic resources, and should be combined with more capital-intensive techniques as part of the overall Stormwater Capital Plan. Some of these efforts could be undertaken by individual neighbors and property owners that, together, will have a cumulative impact on the environment. These include:

- Rain gardens;
- Replacing turf grass areas or vacant lots with deep-root prairie plants;
- Disconnecting downspouts and sump pumps from the sewer system;
- Retrofitting parking lots in commercial areas and schools to include landscaping, bioswales and rain gardens to infiltrate a portion of rain events on-site and thus divert water from contributing to back-ups in storm sewers; and
- Converting vacant lots into community gardens that reclaim land for infiltration.

Alley with flooding issues prior to instillation of pervious pavers (left) and after (right). Photos: Courtesy of CMAP

a. Minimize Impervious Surfaces

Parking lots, sidewalks, rooftops and roadways are surfaces that have no infiltration capacity, causing all the precipitation on the surface to become runoff. In addition, the water quality of stormwater runoff of these surfaces, due to oils, solvents and other pollutants, is very poor, especially in highly urbanized areas.

There are a number of ways to reduce the impervious area on site, including use of pervious pavers (discussed below); reduction in parking requirements, which in turn reduces the needed area of parking lots; encouragement of mixed use development, which reduces the overall parking demand due to the potential for shared spaces; and conversion of vacant at-grade parking lots into areas of naturalized vegetation.

b. Rain Gardens and Bioswales

A rain garden is a planted depression that use native plants and natural infiltration properties to reduce rainwater runoff from impervious urban areas like roofs, driveways, walkways, and compacted lawn. Bioswales are vegetated open channels specifically designed to reduce the force and treat stormwater runoff. They convey larger stormwater volumes from a source to a discharge point, but unlike ditches, they intentionally promote slowing, cleansing and infiltration along the way. A sloped base to facilitate this water movement distinguishes bioswales from rain gardens. Bioswales are particularly affective in public right-of-ways and within medians of boulevards. Rain gardens and bioswales are most effective in areas where water naturally flows or is forced to flow, including at the end of a downspout or the low spot on a parking lot. Rain gardens and bioswales have been proven to not only reduce stormwater volume but also improve water quality, especially for use in urban environments.

Bioswales located in public rights-of-way are particularly affective in reducing the stormwater flow and improving quality for stormwater that falls on roadways.

c. Pervious Materials and Pavers.

Pervious asphalt and concrete can be used as an alternative to traditional impervious materials such as conventional asphalt pavement and concrete. Pervious asphalt and concrete is very similar to the traditional variety in their composition except they have more void space to allow water to infiltrate. Though factors such as rainfall intensity and underlying soil conditions affect the actual reduction, these techniques increase the infiltration capacity of the surface, and thus reduce the amount of untreated water that flows into a traditional stormwater system.

Reduction in pavement, use of raingardens and bioswales, and installation of pervious materials, has been proven to affectively reduce the quality and improve the quality of the stormwater that flows into a traditional sewer system.

1.2 Energy Efficiency and Retrofits

Traditional older neighborhoods have the potential to greatly improve their energy efficiency. Often the installation of small energy efficient improvements can be an important component of the livability and reduction of monthly energy costs. As such, a focus of the neighborhood should be the provision of various programs targeted towards energy efficiency including:

a. Targeted Energy Assessments and Audits

Energy assessment software should be available to all residents of Decatur, but targeted outreach and workshops should set an aggressive goal for adoption of a large portion of local homes in the urban core demonstration area.

The City should also seek partnerships and funds to provide free or very low cost energy audits for homeowners, especially those on fixed-incomes such as seniors, and low-income families. In addition, rental buildings, in particular, should be targeted. Rental buildings have a large potential for savings to tenants, especially those where it could make a substantial difference to improve monthly budgets.

b. Weatherization Program

The City and non-profit partners should set aside a portion of their weatherization programs for this targeted neighborhood. Weatherization includes simple, lower-cost improvements such as attic insulation, caulking, water heater blanket, heating/cooling system repair, and other conservation measures, to improve the energy efficiency of a building.

c. Targeted Energy Retrofit Program

A comprehensive retrofit program should be tailored to the unique needs (marketing, financing) of the neighborhood. In order to provide for this program, the City will need to research and investigate different funding opportunities, financing tools and mechanisms including but not limited to revolving loan funds, PACE bonds, energy efficiency improvement districts, and existing federal and state funds.

The goal would be to measure cumulative change in a targeted area through a combined program of energy assessments, audits, weatherization and energy retrofits.

d. Targeted Public Education Program

A multi-faceted energy efficiency campaign should be created that is heavily publicized with the rollout of the Decatur Sustainability Plan. This communications plan should start with the basics by explaining how energy efficiency benefits at the household and small business levels.

1.3 Infill and Mixed Use Development.

In order to make redevelopment a viable and economically positive option, the City should seek ways to reduce the risk for new development by considering the implementation of the following programs:

a. Establish a Revolving Loan Fund, which can be used for both direct and gap funding and should target acquisition of property, improvement and site preparation, and construction of large-scale residential and commercial developments.

b. Utilize a Land Bank Program, Community Land Trust, and/or expand the existing receivership program to obtain financially distressed and vacant structures/lots in the neighborhood. Assembling small, individual parcels into larger blocks under common ownership can greatly enhance their development potential.

c. Reduce or eliminate fees for plan review and building permits in the neighborhood.

d. Expedite permitting and review process for development in the neighborhood.

e. Consider zoning changes including the allowance of mixed use as a conditional use; allowance of small scale neighborhood commercial uses as a conditional use; and reduction in parking requirements for mixed use, developments close to public transportation, and served by adequate on-street parking.

f. Consider neighborhood as receivership location for Transfer of Development Rights.

g. Encourage the Chamber of Commerce and local business community to take an interest, responsibly, and capacity in assisting neighborhood improvement efforts.

1.4 Recycling / Composting Pilot Program

a. Create "RecycleBank" type program which rewards recycling participation. Creating an incentive program will increase participation while also exposing more people to recycling education and getting into the habit of recycling practices.

b. Collect residential food waste and create program to offer composting bins.

c. Pursue economic development opportunities through sustainable business development in the neighborhood (e.g. recycled products, by-products).

1.5 Property maintenance

a. Establish a Property Maintenance Neighborhood Grant.

Establish a property maintenance neighborhood match program that offers small matching grants, ranging from $500 to $5,000, for the purpose of neighborhood property maintenance and beautification. Matching can include cash, donated professional services, donated materials or volunteer labor. The City must establish criteria for project selection. The criteria should include:

- Have neighborhood support;
- Be able to obtain all necessary City permits;
- Be designed for low maintenance or ability to be maintained by neighborhood volunteers or a contractor hired by the neighborhood; and
- Involve residents in all phases of implementation.

Examples of eligible projects for neighborhoods could include landscaping and signage for neighborhood entrances, landscaping traffic islands and city rights-of-way, and public art. The City

should work with private businesses to sponsor neighborhood projects, where the business works in partnership with the neighborhood on project but also is able to receive public recognition for such work.

1.6 Promote the development of one or more community gardens

Community gardens provide access to fresh produce and plants as well as sense of community and connection to the environment. Furthermore, an active community garden site can create a stable force in the community and serve as an anchor for other re-development initiatives. The selected site of the community garden should be centrally located, highly visible, safe, and accessible by all members of the neighborhood.

Implementation Steps:

Steps	Time Frame	Responsible Party
Identify targeted neighborhood(s)	4 months	City, Coalition Of Neighborhood Organizations
Meet with neighborhood residents/community group to discuss program	1-2 months	City, Neighborhood Organizations
Develop Neighborhood Plan	6 months	Neighborhood leaders with City support
Development Energy Education program	6 months	City, Richland Community College, Millikin University
Identify Community Garden location	6 months	City, Neighborhood Organizations, Decatur Community Foundation, Decatur Park District, Macon County Conservation District, Decatur is Growing Gardeners
Development resources for Community Garden	6-8 months	City, Neighborhood Organizations, Decatur Community Foundation, Decatur Park District, Macon County Conservation District, Decatur is Growing Gardeners
Start Community Garden	8-9 months	Neighborhood Organizations, Decatur Community Foundation, Decatur Park District, Macon County Conservation District, Decatur is Growing Gardeners
Start Property Neighborhood Maintenance Code Grant	9 months	City, Neighborhood Organizations, Decatur Community Foundation
Start Neighborhood Recycling/Composting Pilot	9 months	City, Neighborhood Organizations, County, Veolia, Waste Management, Midwest Fiber,
Provide energy audits	9-12 months	City, Macon County, State of Illinois, Federal Grants, Business Community, Development Community, Ameren
Provide energy weatherization	9-12 months	City, Macon County, State of Illinois, Federal Grants, Business Community, Development Community, Ameren
Identity areas to implement naturalized stormwater management techniques: boulevards, rights-of-way, and private property.	12 months	City, Neighborhood Organizations
Provide energy retrofits	12-18 months	City, Macon County, State of Illinois, Federal Grants, Business Community, Development Community, Ameren
Investigate infill development strategies	12 months	City, Macon County, State of Illinois, Federal Grants, Business Community, Development Community, Decatur Community Foundation, Economic Development Corporation
Implement naturalized stormwater management techniques: boulevards, rights-of-way, and private property.	12-18 months	City, Neighborhood Organizations
Implement infill development strategies	12-36 months	City, Macon County, State of Illinois, Federal Grants, Business Community, Development Community, Decatur Community Foundation, Economic Development Corporation

2. NEWLY DEVELOPING AREA DEMONSTRATION

Decatur is fortunate to have peripheral areas with available infrastructure, accessible through biking and possibly transit service, and ripe for new development. Compared with other regions, Decatur has the unique ability to set a standard for new development that provides new, modern development, and demonstrates the effectiveness and potential cost efficiency of green building techniques. As such, Decatur should select a newly developing area to incorporate a variety of sustainable development practices. The criteria for the selected newly developing area include:

1. Area likely to be designed and developed in next 5-10 years;
2. Interest from landowner, developer, other private interests;
3. Interest in designing residential and commercial for energy savings;
4. Interest in Best Management Practices for stormwater design; and
5. Interest in mixed-uses in area to reduce number of car trips.

The area(s) chosen shall include single or multiple property owners that are interested in developing their land in a sustainable manner. The purpose of this focused project is to not only create a model area built with sustainable development and subdivision techniques but also to show that a market in Decatur exists for this type of development. To further determine more precise land use, platting, transportation, and design elements, additional neighborhood planning efforts may be required.

TARGETED STRATEGIES AND PROJECTS/ACTIONS:

2.1 Compact, Viable, and Sustainable Neighborhood Pattern

In order to conserve land, preserve environmentally sensitive areas, promote a livable community, provide efficient transportation, and promote neighborhood walkability, this area should be created in a compact neighborhood pattern. Elements of a compact neighborhood pattern include a varied and affordable housing stock, diversity of uses, walkable streets, interconnected street network, and access to open space and parks. Well-designed, appropriately scaled compact development can help Decatur use land more efficiently, which offers several advantages, which accommodates more uses on less land, preserves natural areas, and requires less funding for building and maintaining infrastructure.

a. Include a mix of housing types and densities

Decatur is a vibrant community that requires a high-quality, mixed housing stock to respond to various needs and household types. In particular a demand for a variety of housing options will come from students, young households, empty nesters, and older families. These populations are most attracted to housing of varied types – from small lot starter homes to townhomes to condominiums and apartments. Furthermore, developing a diverse housing stock goes beyond just providing residents with a place to live that meets their budgets; it also provides opportunities for people to live and work in the same community. These opportunities translate to a more stable community with long-term residents. Enhancing the diversity of the housing stock will make this area a desirable place to live and call home.

b. Include mixed uses to reduce the number of traffic trips

Sustainable neighborhoods are most successful with the inclusion of a mix of uses. Mixed-use development refers to the practice of allowing more than one type of use in a building or set of

buildings and typically includes the grouping of residential and commercial uses. Mixed-use development improves the efficiency and potential of land by allowing a multitude of different uses together, rather than conventional single-use zoning that preclude allowing commercial and residential uses within the same area. Benefits of mixed-use development include:

- Encourages high quality design by allowing greater flexibility in the permitted uses;
- Provides for a diversified job mix ranging from entry-level to executive;
- Allows for shared parking to reduce impervious surfaces and costs to the developer;
- Creates an area's identity and development potential (e.g., town centers, "gateway" areas);
- Promotes pedestrian & bicycle travel;
- Reduces auto dependency, roadway congestion, and air pollution by co-locating multiple destinations;
- Reduces infrastructure costs by clustering uses;
- Promotes a sense of community;
- Promotes a sense of place; and
- Encourages economic investment.

The desired neighborhood mix of uses includes residential, commercial and office. While the entire area should not be all mixed use, portions of the neighborhood should incorporate mixed use developments.

2.2 Conservation Development

The Plan encourages additional land preservation and enviornmentally-friendly design through the practice of Conservation Development. Conservation Development is typically defined as "a housing development in a rural setting that is characterized by compact lots and common open space, and where the natural features of land are maintained to the greatest extent possible." Conservation Design is a land division system that takes into account the natural landscape and ecology of a site, while allowing the same number of units as conventional development. Buildings are grouped together in a less land-consumptive manner in order to maintain open space and natural features.

The use of Conservation Development is particularly important for land development of this neighborhood in order to

- Reduce impervious surface areas;
- Allow for sustainable stormwater management;
- Provide for protection and management of natural areas; and
- Provide for a less consumptive land use pattern.

The benefits to the area by being developed within the principles of Conservation Development include protection of natural features, preservation of open space and natural habitat, decreased infrastructure, increased pervious surface, protection of water resources, and naturalized storm water management. For this newly developing area, compact development can include building homes on smaller lots, building attached homes (rowhouses or townhomes) or building multifamily structures.

2.3 Promote the Use of Green Building

Green building is the practice of creating structures and using construction practices that are environmentally responsible and resource efficient. Green building focuses on the entire life-cycle of a

building from siting to design, construction, operation, and ongoing maintenance. The primary objective of green construction is to mitigate the overall impact of the built environment on human health and the natural environment by:

- Efficiently using energy, water, materials, and other resources;
- Reducing waste, pollution and environmental degradation[1]; and
- Protecting occupant health and improving employee productivity.

Green building should be utilized wherever possible in this area.

2.4 Utilize naturalized stormwater management

The newly development area should use Best Management Practices including naturalized stormwater management. The use of naturalized stormwater management will need to be tailored to the unique environment of the area but should include:

- Bioinfiltration – vegetated systems designed to facilitate the infiltration of stormwater and remove pollutants through infiltration. Examples include bioretention areas, swales, rain gardens, infiltration basins, urban forests.
- Permeable pavement – pavement that allows water infiltration into underlying soil and filters some pollutants.
- Filtration – a variety of devices which actively or passively filter pollutants out of stormwater. These techniques are often used in conjunction with other BMPs
- Green roofs – roofs with vegetated surfaces designed to reduce runoff and heat island effect through transpiration and evaporation and filter rainwater through their design and materials
- Constructed wetlands – designed wetland intended to intercept runoff, reduce peak flows, decrease runoff volume and mitigate pollution.

2.5 Small Scale Renewable Energy Generation

Due to advances in technology, small scale, on-site "distributed generation" (DG) has become a viable and economic option. On-site generation of electricity allows households to decrease or even eliminate the amount of electricity purchased from the electricity grid. Renewable energy generation is attractive for many reasons including environmental impact, ability to address supply problems (e.g., power quality and availability), and in the case of on-site generation, energy security (e.g., eliminate potential for centralized electricity failure). Potential on-site small scale renewable energy generation can include:

- Small roof wind turbines;
- Medium sized neighborhood wind turbines;
- Photovoltaic (PV) panels on roof or in yards; or
- Geothermal units.

2.6 Smart Meters

A smart meter is an advanced electrical meter that records consumption in intervals of an hour or less and communicates that information back to the utility for monitoring and billing purposes. Some smart meters enable two-way communication between the meter and the central system. Smart meters allow real time pricing that enables consumers to view real-time pricing schedules, which will allow them to adjust their consumption habits to be more responsive to market prices. The City should work with Ameren to provide Smart Meters to the neighborhood as part of a pilot program.

[1] United States Environmental Protection Agency (http://www.epa.gov/greenbuilding/pubs/about.htm)

Implementation Steps:

Steps	Time Frame	Responsible Party
Identify targeted area	4 months	City, County, Development Community, Property Owners
Meet with property owner to discuss options	4-6 months	City, Neighborhood Organizations, Property Owners
Complete neighborhood planning process	6-12 months	City, County, Development Community, Property Owners
Amend necessary comprehensive plan, subdivision, zoning ordinance, and zoning map to implement neighborhood plan	12 months	City, County, Development Community, Property Owners
Create a Capital Improvement Plan to provide a record of public improvements to be provided over a certain period of time	12 months	City, County
Ensure the preservation of any environmentally sensitive areas through easements, trust, purchase of lands, or other mechanisms.	12-18 months	City, County, Development Community, Property Owners
Work with property owners and developers to implement land use and subdivision elements of plan.	18-28 months	City, County, Development Community, Property Owners

3. PUBLIC EDUCATION AND MARKETING CAMPAIGN

Many professional sectors have embarked on the move toward sustainability: business, architecture, design and planning, agriculture, local and state governments, non-governmental organizations and education. Sustainability in the long run can improve the quality of life, reduce costs (infrastructure, energy) and increase property values. However, sustainability is often not easy to understand and requires a changing of mindsets and habits. Often it is local government and its partners that are most effective on the forefront of understanding their residents and developing a concerted communications strategy and outreach strategy.

> "We will conserve only what we love. We will love only what we understand. We will understand only what we are taught."
>
> ~Baba Dioum, Senegalese Ecologist

TARGETED STRATEGIES AND PROJECTS/ACTIONS:

3.1 Engage Youth

Youth is the greatest asset to educate regarding sustainability. They are open and enthusiastic about sustainability as a mainstream concept. They use technology to connect with each other on this topic, and are developing their own environmental and community-based movement. It is young people who will be able to popularize and energize planning for the future and embed it into the everyday actions of the next generation.

The Sustainable Decatur website is a great tool to use for public outreach and education.

3.2 Multimedia

People obtain information today from a variety of sources: newspapers, television, internet, etc. As such, a variety of mediums should be utilized to pass along information.

a. Website

The project website for Sustainable Decatur should be kept updated over time and be a central source for resources, events, and communication. The Web site includes a blog that can be used by residents and local groups to discuss important issues and build momentum for change and coordination.

b. Social Media:

Utilize successful social media sites such as facebook, to reach a wider audience, especially those outside the Decatur region.

c. Newspaper:

Utilize the Herald and Review in the form of articles, press events, editorials, advertisements, and promotion of events to promote and educate sustainability.

d. Brochure:

Create a sustainability brochure to be passed out at the Civic Center, Decatur Public Library, and at various visible locations. Brochures can be given out by the City as part of the permitting process or given to new residents as a "Welcome to Decatur" packet.

e. Event Table:

Set up a "sustainability tent" for major events like Central Park Farmers Market, Celebration, and Blues in Central Park.

f. Kiosk:

Place an informational kiosk at a highly visible location such as the Civic Center or the Decatur Public Library.

g. Television:

Work with Millikin University and Richland Community College to write and place public information campaign on local cable television. Such campaign should direct those interested to visit the Sustainable Decatur website for more information.

h. Radio:

Work with Millikin University and Richland Community College to write and place public information campaign on local radio stations. Such campaign should direct those interested to visit the Sustainable Decatur website for more information.

3.3 Public Education

Part of creating a sustainability ethic can be done through the school districts. Integrating a curriculum is a straightforward, measurable way to directly educate the next generation about these concerns. The Decatur School District 61, Mt. Zion Community Unit School District 3, Maroa Forsyth Community Unit School District 2, Argenta-Oreana School District 1, Meridian Community Unit School District 15, and any other surrounding school districts should collaborate on providing engaging curriculum at various school levels from kindergarten to High School.

However the public education effort has to expand beyond that. The City must also invest in a public awareness campaign about sustainability, and encourage cross-sector dialogue to address key long-term and sustainability issues facing the region. It has to be embraced by churches, youth groups, sports clubs,

community clubs, and others. This social movement is already building and it cannot be only directed government action.

3.4 Conduct ongoing forums and cross-sector dialogue to promote collaboration and progress on achieving Decatur's sustainability goals.

Achieving sustainability requires the collaboration of public, private, and institutional sectors. This planning process is not enough, and ongoing efforts. Implementation of this Plan will require collective action, as well as a resolution to reconcile potentially competing goals. Some of the toughest issues occur when economic, social, and natural resource goals collide. Providing forums and cross-sector dialogue is important not only for resolving and reconciling competing interests, but for collectively planning for Decatur's future.

Implementation Steps:

Steps		Time Frame	Responsible Party
Develop multi-media marketing and educational campaign	Website	Immediate-On-going	City, County, Chamber of Commerce, Business Community, Richland Community College, Millikin University
	Newspaper—Herald and Review	4 months	
	Brochure	4 months	
	Radio	4 months	
	Television-cable access	4 months	
	Internet / Social Media	6 months	
	Interactive (community events, kiosks, booths)	6 months	
Create public education curriculum		12 months	City, State, School Districts
Conduct ongoing forums and cross-sector dialogue to promote collaboration and progress on achieving Decatur's sustainability goals		6-12 months	City, County, Development Community, Property Owners
Change mindset		On-going	City, County, Development Community, Property Owners

4. GREEN ECONOMIC DEVELOPMENT STRATEGY

Sustainable Decatur incorporates strategies to promote economic development and capture a larger share of economic investment throughout the entire Plan. The mix of economic activity has fundamentally been altered over the past several years – from one that focused on consumer spending and debt to, what many economists believe, is a course of revived economy that will be based on a new round of innovation, entrepreneurship and new skills.

Those industries keeping up with changes are recognizing fundamental aspects of this Plan:

- Energy is a substantial cost and will continue to be a scarce resource;
- Highly skilled workforce that is flexible, retrainable, and adaptable will yield more economic opportunity;
- Education is vitally important to the income of employees and households. Continuous education opportunities from pre-school through elementary, high school, higher education and workforce training are the bedrock of a successful regional economy;
- A strong educational infrastructure, especially in higher education that attracts young students to Decatur from throughout a much larger region, state and throughout the world, particularly to Millikin University and Richland Community College;
- Access to affordable capital is central to reinvestment and economic expansion. Decatur has a strong economic base to position itself for attracting additional jobs;
- An agri-industrial community that invests heavily in innovation and has been a global leader in products and processes for generations; and
- A diverse workforce that can respond to changes in the economy.

TARGETED STRATEGIES AND PROJECTS/ACTIONS:

4.1 Market education partnerships and work to retain students to live in Decatur post-graduation

Students come to Decatur for first-rate higher education. These students are not only those just out of high school, but increasingly mature adults seeking to raise their education and skill-levels. Millikin's Center for Entrepreneurship is world-renowned for leading and teaching innovation, skill-development and business management skills. Richland Community College plays an extremely important role in training thousands of students and workers for jobs in demand today. It has led practices in agriculture, has partnerships with industry, and is a hub for community life.

The life of a community depends on attracting and recruiting young people to choose to live in Decatur. Sustainability, high quality of life, and economic opportunities are central to young individuals and families looking to settle in a community.

4.2 Decatur can be a City for Entrepreneurship

Decatur must build on the assets of higher education, rich history, and current business and industrial opportunities to create an environment of entrepreneurship. With more and more young people eschewing the "corporate track" and looking for a home environment focused on innovation, opportunity, and community spirit, Decatur has what it takes to set an image that welcomes, supports, and frees up resources and opportunities. Decatur should welcome individuals and businesses willing to take a risk

and try out a new business practice, seek seed funding, and recruit local partners to form new companies, products, and offerings.

4.3 Farm Progress Show 2011

The Farm Progress Show attracts thousands of people from hundreds of miles away. Virtually every main agriculture brand is represented at the Show. 2011 is an opportunity to roll out Sustainable Decatur and show the difference that advanced planning can have to attract economic investment to the area. Building on the successful demonstration of bioenergy at Farm Progress 2009, multiple exhibitors with Decatur connections should be encouraged to demonstrate sustainable practices in 2011, with common Sustainable Decatur logos, a coordinated set of events, and mass marketing efforts.

4.4 Build Sustainable Bioenergy Production and Market

There is little question that new sources of energy are going to be needed for years to come. Just as A.E. Staley and later ADM foresaw world markets building on the area's agricultural riches and plentiful water supply, Decatur has the opportunity to be at the center of a new revolution in energy production – Sustainable Bio Energy Grasses. The combination of local and nearby research powerhouses, plentiful and rich agricultural land, the need to diversify agricultural products, and federal and state requirements to diversify energy sources create a tremendous opportunity for Decatur and Central Illinois to become pioneering leader in an innovative industry – the production and processing of perennial energy grasses. These grasses would supplement Decatur's leading edge of ethanol production, by growing a new set of crops that would require less water, produce far less impact on the environment, and have the potential for a new home-grown energy source that would eventually grow with the global market. The net result would be good for local farmers, industry, water, land, other natural resources, and the economy.

4.5 Attract new green building

Detailed throughout the Plan are various techniques to attract green building to Decatur. From conservation development, to urban infill development, to energy assessments and energy audits, Decatur can be a leader in attracting developers who want to test a new set of products that will meet changing market demands for energy efficient buildings, attractive designs, and a connection to the land. Decatur's history of development from the establishment of Lake Decatur demonstrates that big things can happen, markets can be built, and the community can come behind a vision for sustainable economic development.

4.6 Work with industry efficiently utilize energy and water while growing economic activity

Energy and water efficiency can be thought of as an additional source. Local industries have been leaders in continuous innovation to lower their costs through efficient use of natural resources. The City should partner with both large and smaller users to quantify and explore further efficiencies in both energy and water. Efficient practices will improve the bottom line for industry, the City, and the larger community. Expansion in water supply is essential to long-term growth of the community and can be done in concert with water conservation programs to ensure long-term viability, a culture of resource awareness, and reduced costs to all parties involved.

4.7 Create and educate a "green" workforce.

The Decatur region is well positioned to develop a workforce for employment in the renewable energy, energy efficiency, sustainable management, and clean technology fields. Partnerships should be

developed with both Millikin University and Richland Community College in the expansion of programs that prepare students for work in the these industries, particularly with an emphasis in the field of Sustainable Bio Energy grasses.

Implementation Steps:

Strategies	Timeframe	Responsible Party
1. Market education partnerships and work to retain students to live in Decatur post-graduation	Immediate	Millikin, Richland Community College, Chamber
2. Decatur can be a City for Entrepreneurship	6-12 months	City, Chamber, Millikin, Richland, Industries, Illinois Worknet
3. Farm Progress Show 2011	12 months	Richland, Farm Bureau, Industries, AWI
4. Build Sustainable Bioenergy Production and Market	12 months- on-going	AWI, Farm Bureau, Macon Co. Soil and Water Conservation District
5. Attract new green building	12-24 months	City, Developers, Chamber
6. Work with industry efficiently utilize energy and water while growing economic activity	0-24 months	City, Industries
6. Create and Educate a "Green Workforce"	0-48 months	City, Chamber, Millikin, Richland, Industries, Illinois Worknet

The Sustainable Decatur Plan is a statement of policy; a guiding document expressing the visions and aspirations of the residents of the Decatur region to develop a sustainable community with a high quality of life. As a policy document, the Plan is fluid, not an end unto itself, requiring City officials and residents to undertake further actions to implement the policies and recommendations contained herein over the long term. Therefore, adoption of this Plan does not signal the end of the planning process in Decatur. Rather, it signals the beginning of a process of continuing implementation whereby the Plan serves as a guide for both public and private decisions affecting the future of the community. This requires that both City officials and the community residents be familiar with and generally support the major tenets of the Plan. Therefore, it is important that the Plan be well publicized, understood and supported by the entire community for it to be recognized as a practical and effective guide.

The process of achieving true sustainability in Decatur over the long term is dependant on specific actions, programs and tools. The Plan is not static. Rather it is based on dynamic variables whose future direction cannot always be accurately predicted. The City must periodically re-examine and update the Plan as conditions and community aspirations change.

Implementation Actions

Plan implementation consists of a variety of proactive and reactive activities that will collectively ensure that Decatur achieves its sustainability goals. Proactive activities are those actions that the City initiates through a proposal, plan, improvement or regulatory change. On the other hand, reactive activities are those in which other parties approach the City with a proposal on which the City must act. The Plan implementation phase of the comprehensive planning process begins when the City Council adopts the Plan. Since the implementation phase will require time and effort on the part of the staff, as well as balanced allocation of the City's financial resources, the City Council should prioritize all activities to be carried out.

Implementation Action Plan

The implementation action plan identifies and defines each strategy and project/action to be carried out during a particular timeframe, and the responsible parties for each activity. The Implementation Action Plan is designed to provide a starting point for prioritization and budgeting of actions needed to implement strategies and recommendations outlined in this Plan. A timeframe for each activity is also suggested to define a general phasing for implementation. Further refinement of this table will be needed as details of costs and staff resources are verified. In addition, the City should review and update the action plan on an annual basis to ensure that it stays within the City's financial ability and resource capacity.

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
Water Goal 1: Ensure that Decatur has an adequate water supply to allow for both population growth and economic development.	Strategy 1: Improve Drought Preparedness	Develop a drought preparedness plan	1.1.1	-Work with State Water Survey to draft detailed drought preparedness plan.	High	Short	Current resources	ISWS, large users
	Strategy 2: Expand public water supply to provide a sustainable source for the future.	Develop use of shallow aquifer	1.2.1	-Support City's effort to expand water capacity by determining efficient, sustainable means to ensure adequate water is available to support the population and economic development.	High	Short	Water use fees	Large users, Mt. Zion, Macon County Health Department
		Work with ADM on water supply enhancement	1.2.2					
		Proceed with plans for Lake Tokorozawa.	1.2.3					
	Strategy 3: Maintain capacity and quality of Lake Decatur and its watersheds.	Reduce silt and continue to dredge Lake Decatur to maintain capacity	1.3.1	-Continue dredging effort to sustain Lake Decatur as a vital supply of water. Work with agricultural community and property owners to reduce runoff and sedimentation into Lake Decatur.	High	Short	Water fees, ADM	ADM
		Continue to strengthen the city-farm partnership for sustainable and innovative watershed management to protect Lake Decatur.	1.3.2	- Work with property owners and other stakeholders to implement the upper and lower Sangamon Watershed plan.	Medium	Short	Existing sources	City, County, landowners, Macon County Farm Bureau
		Ensure monitoring of Lake Decatur and tributaries.	1.3.3	- Ensure consistent, on-going monitoring of Lake Decatur, Sangamon River, and tributaries.	Medium	Mid	SWS, grants	SWS, AWI, universities and schools
	Strategy 4: Promote efficient use of water supply	Continue to invest in reducing water main leakage.	1.4.1	-Water main leakage can be a major loss of water supply. City should continue to invest in maintenance of water mains to reduce leakage.	High	Short	Water use fees	
		Explore use of non-potable water reuse and irrigation on public or private lands.	1.4.2	-Negotiate agreements for water reuse for golf courses, and other public and private lands, and industrial reuse of water.	High	Short- to Mid	User fees	Parks, Property owners
		Educate public to conserve use of water (Ultra low-flow	1.4.3	-Provide outreach to residents and businesses on benefits of conservation. - Negotiate program with retailers to offer	High	Short	State, utilities, retailers	State, utilities, retailers

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
		appliances, Rain sensors on irrigation and smart controllers, Expand rain barrel use, Reduction of irrigated turf area.)		incentives to customers. - Work with utilities and state to offer incentives.				
	Strategy 5: Incorporate best practices of other water agencies to most efficiently use environmentally-beneficial processes.	Partner with other water treatment agencies to undertake a study to determine efficient use of environmentally beneficial processes	1.5.1	-Partner with other treatment agencies -Review best practices of other treatment agencies.	Medium	Mid		Macon County Health Department
Water Goal 2: Improve stormwater quality and reduce runoff that causes flooding and siltation in Lake Decatur	Strategy 1: Incorporate the use of BMPs to manage stormwater in order to reduce runoff and improve water quality	Update Stormwater Management Ordinance	2.1.1	- Review and update stormwater management ordinance. - Work with County, Mt. Zion, and Forsyth for consistent codes.	High	Short	City	Macon County, Mt. Zion, Forsyth
		Utilize BMPs through public spaces – parkways, parks, boulevards and stream protection	2.1.2	-Inventory parkways, boulevards, and streams for possible use. -Investigate adding BMPs to West Main St. -Investigate use of BMPs in stream buffer zones. -Investigate street rebuilds and streetscapes to include naturalized techniques. -Seek funds to implement model projects.	High	Short	TIF and other capital improvement sources	Property owners
		Utilize BMPs in capital improvements for high profile public site to demonstrate the effectiveness	2.1.3	- Test techniques through capital improvements. -Inventory parkways, boulevards, and streams for possible use.	High	Short	TIF and other capital improvement sources	Property owners

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
				- Investigate adding BMPs to West Main St. - Investigate use of BMPs in stream buffer zones. - Investigate street rebuilds and streetscapes to include naturalized techniques. - Seek funds to implement model projects.				
		Utilize BMPs as a strategy to address current flooding issues in neighborhoods indentified in capital improvement plans.	2.1.4	- Determine projects on stormwater capital improvement list that can be resolved partially or in full with BMPs. - Investigate use of BMPs as possible techniques in all stormwater capital improvement projects. - Promote a homeowner education project to provide widespread use of techniques like raingardens and disconnection of drainspouts to reduce flooding in areas most impacted by frequent floods.	High	Short	Capital improvement funds	Neighborhood organizations and homeowner associations, landscape firms
		Develop an outreach and education program to the public and development community on naturalized stormwater management.	2.1.5	- Promote a homeowner education project to provide widespread use of techniques like raingardens and disconnection of drainspouts to reduce flooding. -Hold seminars and publish brochures geared to property owners and professionals.	High	Short	Sponsors	Neighborhood organizations and homeowner associations, landscape firms
		Implement erosion and sedimentation measures on agricultural lands, construction, and streams.	2.1.6	- Continue education efforts with agricultural community.	High	Short	Existing sources	AWI, MCSWCD, Macon County
		Work with property owners (public and private) to improve shorelines to prevent	2.1.7	- Provide educational materials and host seminars	Medium	Short	Existing sources	Park District, landowners

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
		erosion and sedimentation.						
Water Goal 3: Promote environmentally responsible and efficient conveyance & treatment of wastewater to meet long-term needs.	Strategy 1: Maintain and make most productive use of wastewater.	Develop and implement asset management plan.	3.1.1	- Continue on-going development and implementation of Asset Management Plan.	High	Short-medium	Water fees	Water Management, Sanitary District
		Reuse treated water.	3.1.2	- Actively seek partnerships with industries and large landowners.	High	Short-medium	User fees	Industries, landowners
		Continue to reuse 100% of biosolids and explore packaging for smaller users.	3.1.3	- Continue to reuse biosolids.	Medium	Short	Revenue source and cost avoidance	Sanitary District, Macon County Health Department
		Develop public education for proper sump pump disconnection.	3.1.4	- Brochures, web site materials, and seminars.	Medium	Mid	Cost avoidance	Neighborhood organizations
		Develop a public education program for proper disposal of fats, oils and greases.	3.1.5	- Develop brochure, web site materials, and seminars.	Medium	Mid	City, grants	Restaurants, homeowners
		Explore environmentally friendly practices for treatment of wastewater.	3.1.6	- Investigate practices among other wastewater treatment agencies.	Medium	Mid	Grant	Universities, other wastewater treatment agencies, Macon County Health Department
		Conduct a demonstration project to use effluent for crop irrigation	3.1.7	- Seek demonstration project with farmers.	Medium	Mid	Grant	Sanitary District, AWI, farmers, Macon County Health Department
Energy Goal 1: Decatur will be conscious of building energy usage and utilize all technologies and techniques to increase efficiency	Strategy 1: Provide incentives for improving energy efficiency.	Develop an energy assessment or energy audit program for all sectors and identify options for providing assistance in the implementation of energy efficiency	1.1.1	-Create online do-it-yourself energy assessment tool. -Create energy audit program that provides more specific energy efficiency strategies. -Identify range of financing options.	High	Short	Online tool creations: City (identify grant/assistance), Implementation: Revolving loan fund	City Ameren website tool Energy auditors Ameren Act on Energy program audit ($25) , Architecture/ Engineering community

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
		strategies (e.g. revolving loan fund; identify grant monies; etc…).						
		Develop a retrofit program for residential and commercial sectors, and identify/create options for financing them.	1.1.2	-Create energy retrofit program that provides more an "all systems" approach to energy retrofits, including lighting, HVAC, weatherization, and major appliances. -Identify range of financing options.	High	Short	Some incentive programs already exist at federal/state levels, P.A.C.E. bonds- (Property Assessed Clean Energy), Energy Efficiency Improvement Districts Utility-financed improvements Revolving loan fund	City of Decatur Macon County Ameren Department of Energy (EECBG; potential other opportunities), Illinois Dept. of Commerce and Economic Opportunity, Banks/Community Development Finance Institutions
		Obtain energy audits for all public buildings and implement energy efficiency strategies.	1.1.3	-Audit all public buildings Create implementation plan for a mix of recommendations. -Publicly compare building consumption (e.g. Energy Star rating or by energy use intensity) for community education. -Consider method for ongoing building performance monitoring to track energy consumption and address issues when they arise.	High	Short	SEDAC (Smart Energy Design Assistance Center), ICECF (Illinois Clean Energy Community Foundation)	City, School District, Park District, Other government agencies, SEDAC, ICECF,
		Promote and incentivize a green	1.1.4	-Market / recognize LEED projects.	Medium	Short	Federal, State, Ameren,	City, U.S. Green Building

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
		building program.		-Promote benefits of green buildings. -Research / identify incentives that will work for a Decatur program.			ICECF, Consider separating sources by public versus private	Council, SEDAC, Homebuilders associations, Central IL builders, AIA-Amer. Inst. of Architects, Equipment manufacturers
	Strategy 2: Provide education on energy efficiency.	Develop energy efficiency campaign / education that Institute/encourage behavioral change as "a way of life/doing business" individually and collectively.	1.2.1	-Explain how energy efficiency benefits "me"—all sectors; all consumers (the homeowner; the business owner; the college student; facility managers, large industry etc…). -Develop K-12 educational component. -Leverage area higher learning institutions for assistance (Communications/marketing; education curriculum design).	High	Short	City Ameren Foundations / grants IL-DCEO	City, Ameren, School districts, IL-DCEO (education materials), Richland Community College, Millikin University
		Develop a method for regular energy data collection and analysis by City to measure ongoing sustainability efforts.	1.2.2	-Establish protocols and data-sharing agreement with Ameren. -Develop database.	High	Short	City	City, Ameren, Illinois Department of Transportation
		Develop and share energy efficiency guidelines for standard staff operating procedures (e.g. turning off computers and monitors, phantom load, etc…)	1.2.3	-Research and develop energy efficiency office guidelines. -Publicize within the community.	High	Short	City	City
		Provide and promote educational opportunities for building operations and maintenance staff	1.2.4	-Energy efficiency training on building energy systems and controls; new technologies; etc. -Ongoing peer group roundtable discussions to discuss lessons learned and best practices.	High	Short	City, ICECF, Foundations / grants	City, Chamber of Commerce, MEEA-Midwest Energy Efficiency Alliance
	Strategy 3:	Develop and share	1.3.1	-Research and develop energy efficiency	High	Short	City	City,

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
	Improve energy use through implementation of new technologies.	energy efficiency guidelines for procurement policies (e.g. purchase of office equipment).		procurement policies. -Publicize within the business community.				Chamber of Commerce
		Engage in ongoing smart grid technology discussions and remain involved.	1.3.2	-Find out if there are there new pilot programs that Decatur can tap into -Determine how Decatur can take advantage/make use of existing smart meters -Decatur should be involved in these discussions and educate public on what it learns	High	Short	City	City, Ameren, Illinois Commerce Commissions, Energy policy experts, ComEd (not direct partner, but is doing similar smart metering)
Energy Goal 2: Decatur will investigate and utilize renewable energy opportunities, when available and cost effective, to reduce the consumption of fossil fuels	Strategy 1: Develop a market for sustainable bioenergy production.	Recruit farmers to produce perennial grasses for bioenergy.	2.1.1	- Outreach program to farmers. - Demonstrate market for perennial grasses.	High	Short	Grant	Farm Bureau, Soil and Water Conservation District, AWI
		Develop a market for industries to purchase perennial grasses for bioenergy use.	2.1.2	- Recruit customers – industries and utilities. - Recruit equipment manufacturers. - Arrange distribution of biograsses.	High	Short-Mid	Grant	Businesses, utilities, AWI
		Begin test projects of growing perennial bioenergy crops that utilize less water and fertilizer and test the impacts on water quality.	2.1.3	- Seek demonstration areas to test efficiency of various perennial grasses	High	Short	Grant	AWI, farmers, industries

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
	Strategy 2: Understand existing renewable energy opportunities and constraints.	Review current city ordinance and policies to ensure it supports renewable energy and doesn't hinder it.	2.2.1	-Review zoning ordinance, building code and property maintenance-related codes in particular for elements that would prohibit small scale renewable energy, unintentionally. -Research and consider on-site renewable policies for wind and solar.	Medium	Mid	City	City, IL Wind Energy Association, IL Solar Energy Association, Department of Energy, Rocky Mountain Institute
		Develop an information clearinghouse for renewable energy at household/small business level.	2.2.2	-Provide information for consumers interested in on-site renewable, including how to connect to the larger electrical grid.	Medium	Mid	City	City, Ameren, IL Wind Energy Association, IL Solar Energy Association, Department of Energy, Rocky Mountain Institute
		Remain informed and updated regarding Ameren's renewable energy portfolio requirements and progress.	2.2.3	-Review progress reports submitted to the Illinois Commerce Commission and other entities	Medium	Mid	City	City, Ameren, Illinois Commerce Commission
	Strategy 3: Identify financing and potential sites for renewable energy projects.	Review and leverage potential program funding from utilities and government.	2.3.1	-Aggressively position Decatur for any Ameren pilot demonstration projects for on-site renewables, especially in residential and industrial sectors.	Medium	Mid	City	City, Ameren
		Identify opportunities at individual and large scale level projects.	2.3.2	-The City should identify partners in individual and large scale projects and partner with them by assisting with identifying resources, community education, etc…	Medium	Mid	City	City, IL Wind Energy Association, IL Solar Energy Association, Agricultural Watershed Institute (Local Bioenergy

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
								Initiative)
				-Aggressively position Decatur for wind farm projects, private or utility-based specific to Ameren or regionally for ComEd.	Medium	Mid	City, Macon County	City, Macon County, IL Wind Energy Association
Energy Goal 3: Decatur will reduce total and average household Vehicle Miles Traveled	Strategy 1: Improve fleet efficiency.	Incorporate fleet purchasing and management program to include all City vehicles.	3.1.1	-The City should consider a fleet management program to comprehensively assess vehicle needs and pinpoint issues over time. -Institute polices for flex/biofuels; hybrids; size requirements (compact vs. SUV); and general efficiency factors.	High	Mid	City	City
	Strategy 2: Encourage carpooling	Develop a regional carpooling program for major employment centers in the region.	3.2.1	-Create a regional carpooling program to engage those who drive daily to Champaign-Urbana and Springfield. Utilize highly visible starting points such as the Convention Center or the mall.	High	Short	City, Foundation / grant	City, University of Illinois, State of Illinois (government administration)
	Strategy 3: Improve walkability.	Require sidewalks (using a connectivity index) along all newly constructed residential and commercial buildings.	3.3.1	-Sidewalks are required in all new construction projects, however a connectivity index will provide an added sustainability measurement for the benefit of the City and its residents, business owners and other stakeholders.	Medium	Mid	City	City, Transportation / transit interest groups, Macon County Health Department
		Work with neighborhood organizations to install sidewalks within residential areas that do not currently have sidewalks.	3.3.2	-Identify where there aren't sidewalks; develop timeline/schedule for installation.	Low	Long	City	City, Macon County Health Department
	Strategy 4: Promote increased transit usage.	Develop educational campaign on the benefits of using transit.	3.4.1	-Create this program in conjunction with other programs such as carpooling, carsharing, and bicycling. At first, consider targeting particular audiences (e.g. student population.)	Medium	Mid	City, DPTS	City, DPTS, DUATS, Transportation / transit interest groups
		Seek solutions for providing transportation to outlying areas.	3.4.2	-Ongoing discussion to determine best ways to expand transit to outlying residential/commercial areas	Low	Long	City, DPTS, ILDOT, USDOT	City, DPTS, ILDOT, USDOT

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
	Strategy 5: Improve bicycling opportunities for both recreational and transportation purposes.	Increase on-street safety enhancements.	3.5.1	-Review, understand and implement US DOT Federal Highway Administration's "Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach" into long term transportation planning efforts.	Medium	Mid	City, IL DOT, US DOT	City, DUATS, Macon County Highway Dept, IL DOT, US DOT, Macon County Health Department
		Install secure bicycle racks/parking at public transit locations and in commercial hubs.	3.5.2	-Install simple bike racks for ease of bike parking in high traffic areas	Medium	Mid	City, DUATS, DPTS	City, DUATS, DPTS, Developers, Macon County Health Department
		Develop "sharing the road" bicycle awareness program.	3.5.3	-Create a community awareness program at onset of implementation of new enhancements that highlights City policy (and requirement of transportation funding) to share the road among pedestrians, cyclists and drivers.	Medium	Mid	City, DUATS, DPTS, Macon County Highway Dept, IL DOT	City, DUATS, DPTS, Macon County Highway Dept, IL DOT, US DOT, Macon County Health Department
		Develop a bike/transit program.	3.5.4	-Create program that makes it easy to take your bike along on transit rides (essentially extending all transit trips by the cyclists choice.)	Low	Long	City, DUATS, DPTS	City, DUATS, DPTS, US DOT, Macon County Health Department
	Strategy 6: Investigate car-sharing as an alternative method of transportation.	Investigate car-sharing as an alternative method of transportation that allows participants the freedom of having a car without the burdens of ownership.	3.6.1	-Research car-sharing programs in other cities and consider their applicability in Decatur; potentially target "limited income" sectors that will benefit from having a car, but not necessarily the fees associated with it. (college students; senior citizens; etc...)	Low	Long	City	City
Land Goal 1: Decatur development practices will focus on urban infill and revitalization.	Strategy 1: Develop a market for homes in urban core	Reduce risk for urban infill development by developing financial and partnership programs to incentivize development and assist financially distressed properties.	1.1.1	Create a Revolving Loan Fund: -Meet with Business Community / Banks -Identify funding source -Outline program -Target specific area -Identify partner to administer program -Market program	High	Short	City, State, Federal, Private	Chamber of Commerce, Neighborhood organizations, Development Community, Non-profit housing developer, Decatur Housing Authority
				Create a Land Bank Program / Community	High	Short	City, State,	Chamber of

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
				Land Trust: -Create land banking agency/community land trust, or utilize existing organization if possible -Identify funding sources -Identify properties for receivership/land banking / land trust -Outline program -If necessary, legally hand off property to non-profit housing developer. -Redevelop / improve lots			Federal, Private	Commerce, Development Community, Neighborhood organizations, Habitat for Humanity, Non-profit housing developer, Decatur Housing Authority, Community Investment Corporation, Decatur Community Foundation
				Expand Receivership Opportunities: -Work with property owners to improve properties -Assist in land assembly -Work with existing community development corporations or other/public private partnerships to develop those parcels or bring additional resources and assets to development.	Medium	Short	City, State, Federal, Private,	Chamber of Commerce, Neighborhood organizations, Habitat for Humanity, Non-profit housing developer
				Infill Waiver Program -Identify target areas -Market program	Medium	Short	City	Chamber of Commerce, Development Community, Neighborhood organizations, Habitat for Humanity, Non-profit housing developer
		Partner with Chamber of Commerce and business community	1.1.2	-Meet with Business Community and Chamber of Commerce to discus public/private partnerships: a. Urban Core Revolving Loan Fund b. Educational Workshops for	Medium	Mid	City, State, Federal, Private	Chamber of Commerce, Business Community, Development Community

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
				Landowners on Sustainable Development Techniques c. Coordination between businesses, Richland Community College, Millikin University and other workforce training programs on the need for new technologies, green jobs, and sustainable agriculture and industry.				
	Strategy 2: Support Neighborhood Planning and Improvement	Develop neighborhood plans to identify key projects that will increase homeownership, property maintenance, and quality of life to retain vibrancy of existing building stock.	1.2.1	-Outlying purpose and goals of neighborhood planning program. -Identify area to target for neighborhood planning. -Recruit participants in neighborhood planning process. -Identify funding source. -Consider hiring outside assistance if necessary.	High	Short	City, State, Federal, Private	Chamber of Commerce, Business Community, Development Community, Decatur Community Foundation
		Improve property maintenance	1.2.2	-Enforce existing property maintenance codes. -Develop proactive programs that may combine weatherization, senior citizen homeowner assistance, education to landlords, and workshops for property maintenance.	High	Mid	City	Neighborhood Organizations
		Develop a property maintenance neighborhood match program	1.2.3	-Establish criteria. -Seek Partnerships with local businesses. -Work with targeted neighborhood. -Advertise.	Medium	Mid	City, Private	Neighborhood Organizations, Business Community, Chamber of Commerce.

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
				-Seek projects.				
	Strategy 3: Make the necessary modifications to regulatory documents and the development review process to remove obstacles and incentivize and enact standards for development in the urban core.	Provide standards-based dimensional, use, and design standards to encourage reinvestment and sustainable design.	1.3.1	-Consider list of zoning amendments. -Start amendment process.	High	Short	City	County
		Streamline review and approval of urban development.	1.3.2	-Review existing development review process. -Create expedited process for development in the urban core. -Provide administrative review and action on permits involving variations for development in the urban core. -Assign a single staff contact for urban development. -For large redevelopment projects establish a technical review committee	Medium	Short	City	Development Community
Land Goal 2: New development and rehabilitation in the Decatur area will incorporate all appropriate Sustainable Neighborhood Design and Practices.	Strategy 1: Promote, require, and incentivize techniques that preserve land, promote common open space, and natural stormwater management.	Amend zoning ordinance to allow "Conservation Design Development" as a permitted use in all residential zoning districts.	2.1.1	-Amend zoning code to allow Conservation Development by-right. -Amend zoning code to add Conservation Development standards. -Amend subdivision code as necessary	High	Short		County, Development Community
		Connected development	2.1.2	-Establish agreements between the Sanitary District and the County regarding future sewer extensions. -Review existing annexation agreements. -Insert a "Connected Development" standard	Medium	Mid		County, Sanitary District

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
				as part of the review process for any development that requires public review				
		Provide assistance for LEED buildings	2.1.3	-Determine appropriate assistance. -Implement assistance as necessary.	Medium	Mid	City, State, Federal	City, Building Community
		Amend Stormwater Management Ordinance: see stormwater management section in water	2.1.4	-See stormwater Action Plan.				
	Strategy 2: Utilize programs and develop new programs that incentive protection of existing structures, with an emphasis on historic properties.	Expand historic districts	2.2.1	-Survey neighborhoods to consider expanding existing historic districts or creation of new districts.	Medium	Mid	City, State, Federal	City, Building Community, Historic and Architectural Sites Commission, Historic Preservation Community
		Assist historic downtown commercial buildings	2.2.2	-Review and amend current fiscal packages: a. Provide small grants for energy efficiency upgrades (see energy section). b. Provide tax abatements for downtown historic preservation. c. Work with local organizations or Decatur businesses, such as Green Home Inspections and Energy Audits (http://greenhomeinspections.net/), to offer low cost energy audits for historic downtown commercial buildings. -Provide Educational Support: a. Host a workshop in preservation and energy efficient improvements of commercial buildings with local builders and architects.	Medium	Mid		City, Building Community, Historic and Architectural Sites Commission, Historic Preservation Community

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
				b. Inform downtown property owners of potential tax credits.				
Land Goal 3: Promote sustainable agriculture practices, and be a national leader in urban/neighborhood and community supported agriculture.	Strategy 1: Covert vacant and underutilized urban core properties into community gardens and urban agriculture uses.	Set aside areas of city Land that could be used for urban agriculture demonstration projects.	3.1.1	-Choose one or more highly visible location. -Establish joint public/private partnership.	High	Mid	City, Private	Local Schools, Park District, Business community, Decatur is Growing Gardeners (DIGG).
		Advertise and make logistical changes to the farmers market in Central Park	3.1.2	-Maintain a consistent day of week and time. -Launch a direct and vibrant marketing campaign. -Alter site logistics and layout as recommended	High	Short	City, Farmers Market	Farmers Market, Agriculture Community
		Allow residents to plant adjacent vacant lots through the land bank program	3.1.3	-Allow land bank eligible lots to be gardened, planted, and maintained by interested members in the neighborhood without having to purchase them.	Low	Mid		Neighborhood Organization
		Work with a Macon County Conservation District to manage public community gardens.	3.1.4	-Discuss agreement with Macon County Conservation District regarding management of public community gardens.	Medium	Mid	City	Macon County Conservation District
	Strategy 2: Increase education and outreach to support sustainable agriculture practices including Community Supported	Provide outreach and assist Community Supported Agriculture	3.2.1	-Create a directory for local CSAs. -Assist in advertising for local CSAs. -Create a central city location such as Central Park in the summer and the Civic Center in the winter to allow for CSA drop off and pick up.	Medium	Mid	City, State	City, CSA's, Macon County Health Department
		Work with the Illinois Stewardship Alliance to create a marketing	3.2.2	-Create a directory for finding locally grown food including: farmers markets, meat lockers, u-pick operations, as well as farms	Medium	Mid	City, State, Illinois Stewardship	City, Illinois Stewardship Appliance, Macon

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
	Agriculture and use of alternative crops.	campaign to encourage residents, restaurants, and grocery stores to purchase localized food, herbs or other agricultural products		and businesses who sell locally grown products directly to consumers. -Expand upon the Central Illinois a "Buy Fresh, Buy Local" and create a Decatur label for use in grocery stores and restaurants to identify locally grown products. -Assist in advertising for restaurants and grocery stores that use and sell local products. Encourage the local grocery stores and restaurants to purchase more products from local farmers.			Appliance	County Health Department
		Work with the Macon County Farm Bureau regarding education and outreach for sustainable agriculture practices.	3.2.3	-Work with Macon County Farm Bureau.	Low	Long		Macon County Farm Bureau
	Strategy 3: Preserve Valuable Agriculture Land	Design a model a open space development utilizing perennial grass production	3.3.1	- Develop conceptual design for an open space development incorporating perennial grass production. - Provide outreach to landowners, farmers and prospective developers. - Seek demonstration project.	Medium	Mid	Grant	AWI, City of Decatur
		Work with County to develop a Transfer of Development Rights (TDR) program.	3.3.2	-Meet with County. -Target geographic Transfer and Receiving area. -Amend Codes as necessary.	Low	Long		County, Macon County Farm Bureau, Agriculture Community, Development Community
		Utilize Agricultural Designation areas	3.3.3	-Meet with County . -Target Agricultural Designation Areas.	Low	Long		

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
				-Amend Codes as necessary.				
Land Goal 4: Promote the production of perennial bioenergy crops in order to improve water quality, provide a renewable energy resource, and create economic development opportunities.	Strategy 1: Create a market for sustainable bioenergy production.	Target the development of 10,000 acres as perennial energy grasses, grown mainly in locations such as erodible or wet areas.	4.1.2	-Identify areas of erodible and wet areas as prime growing locations. -Outreach program to farmers. -Demonstrate market for perennial grasses	Medium	Mid	Grant	City, County, County, Macon County Farm Bureau, Agriculture Community, Agriculture Watershed Institute.
		Investigate programs to compensate farmers and landowners for environmental benefits of perennial energy grasses including carbon credits, soil and water conservation, and wildlife habitat.	4.1.2		Medium	Mid	Grant	City, County, County, Macon County Farm Bureau, Agriculture Community, Agriculture Watershed Institute.
Waste / Recycling Goal 1: Reach our region's full potential for recycling	Strategy 1: Increase recycling practices.	Improve existing residential waste and recycling collection procedures.	1.1.1	-Require volume based garbage collection rates.	High	Short	City, Residents	City Haulers
				-Eliminate back door service and twice a week service.	High	Short	City	Haulers, City Elected Officials
				-Limit collection of Yard Waste (and encourage composting at residential scale and/or existing county composting).	High	Short	City, County, State, Residents	City, County, Haulers, Businesses
				-Create incentives for recycling participation.	Low	Long	City, Local sponsors	City, Businesses

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
		Expand beyond residential recycling to include other sectors.	1.1.2	-Research the requiring of businesses to recycle as part of annual licensing (e.g. liquor licensing).	High	Short	City, Businesses	City, Businesses
				-Develop recycling guidelines for standard municipal staff operating procedures.	High	Short	City	City (all municipal entities)
				-Research requiring recycling for all sectors.	Medium	Mid	City	City
				-Coordinate recycling efforts with non-profit, business, public sector organizations.	Medium	Mid	City, Businesses	City, Businesses, Non profits, Public Sector
		Expand recycling to include other recyclable materials.	1.1.3	-Establish program to compost food waste from cafeterias and restaurants.	High	Short	State	City, County, Food Processing Companies (e.g. Tate&Lyle)
				-Create program to expand materials collection for recycling of construction debris (shingles, silt, paint and other construction debris.)	High	Short	State	City, County, Haulers
				-Collect Residential food waste. -Create program to offer composting bins	Medium	Mid	City, County, State	City, County, Haulers Residents
		Collect, monitor and analyze waste and recycling data.	1.1.4	-Establish a comprehensive data center for waste and recycling for Decatur and the surrounding area.	High	Short	City	City, Haulers

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
				-Provide comparison data with cities similar to Decatur (e.g. what works, and what doesn't, benefits of recycling)	High	Short	City	City, Haulers, Surrounding Municipalities
	Strategy 2: Increase community education and outreach for recycling, reducing waste, and reuse of products.	Establish a volunteer database	1.2.1	-Create a program to involve schools (community service hours)	High	Short	City	City, County, Dove Inc, United Way, CEC
		Develop business recycling rewards program	1.2.2	-Reward businesses that recycle	High	Short	County, City, Chamber of Commerce	City, County, Chamber, CEC
				-Recognize/reward business that recycles the most	High	Short	County, City, Chamber of Commerce	City, County, Chamber, CEC
		Develop and implement public education program utilizing local media, TV, newspaper, neighborhood organizations, websites and online social media (e.g. conscious shopping, recycling)	1.2.3	Educational Programming: -Benefits (individual/collective) of recycling -Educate consumers and businesses about need to reduce waste -Educate regarding financial and environmental costs of single use items and packaging -Involve schools (e.g. K-12 education; colleges)	High	Short	City, State (ISTEP Illinois Sustainable Education Project), Foundation / grants	City, County, State, Local Media, Neighborhood Groups
		Develop networking program/opportunities between local and	1.2.4	Waste and Recycling working group should continue meeting beyond Sustainability Plan planning process	High	Short	City	City, Haulers, Stakeholders from each sector

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
		regional organizations.						
Waste / Recycling Goal 2: Reduce waste at the source and at the consumer level.	Strategy 1: Reduce waste at the source and at the consumer level.	Research and develop "green meeting/conference" policy that reduces waste	2.1.1	Include recommendations of recycled handouts, double-sided paper, reusable badges, signage and paper products, and reusable food service ware.	High	Short	City	City, Decatur Convention Center, Businesses
		Review and revise municipal procurement policy to include guidelines/requirements for recycled paper purchasing.	2.1.2	Develop best practices for procurement policies in the surrounding area.	High	Short	City	City, County, State, US DOE
		Find markets for the compost and mulch and other environmentally friendly products generated in our county.	2.1.3		High	Short	Federal, State, County, City,	City , County, Surrounding Municipalities
		Regulate use of environmentally unfriendly products (e.g. plastic bags, styrofoam).	2.1.4		Low	Long	City	City
Waste / Recycling Goal 3: Encourage use of recycled products.	Strategy 1: Encourage use of recycled products	Develop a program to pursue economic development opportunities through sustainable business development (recycled products, by-products, etc.).	3.1.1	-Create a local buying guide	High	Short	City, County, State, Federal,	City, County, State, Federal, Chamber of Commerce
		Research and create incentives and requirements to encourage more LEED projects.	3.1.2		High	Short	City, Builders (residential, commercial)	City, Building Community
Waste / Recycling	Strategy 1:	Research options and	4.1.1	-Promote existing networks	High	Short	City	County, City, Non

Chapter 10: Implementation

Sustainable Decatur Action Plan								
Category	Strategy	Project	Project Number	Actions	Priority	Time Frame*	Funding Source	Partners
Goal 4: Embrace beneficial reuse.	Embrace beneficial reuse	develop an information clearinghouse and network for reuse of waste (e.g. Freecycle)						Profit Organizations
		Develop and support a market for reuse of by-products (based on heath and safety research).	4.1.2		Low	Long		
*Short = 1-2 Years, Mid = 3-4 years, Long = 5 years and beyond								

GLOSSARY OF SUSTAINABILITY TERMS

The language used in this plan can be at times technical – one which can require some definitions for added clarity and to ensure a common understanding. Below is a list of terms we come across regularly or use ourselves when defining, discussing and working toward sustainability.

Bio-based Product:
A product (other than food or feed) that is produced from renewable, agricultural (plant, animal and marine), or forestry materials.

Biodegradable:
A product or material capable of decomposing in nature within a reasonably short period of time.

Biodiversity:
The variability among organisms on Earth and within an ecosystem. Maintaining biodiversity is necessary to preserve the health and survival of an ecosystem.

Biomass:
Living or recently-dead organic material that can be used as an energy source, excludes organic material that has been transformed by geological processes (such as coal or petroleum).

Carbon Footprint:
The total amount of greenhouse gases emitted directly or indirectly through an activity, or from a product, company or person, typically expressed in equivalent tons of either carbon or carbon dioxide.

Carbon Neutral:
This term effectively means net zero carbon emissions to the atmosphere. Achieving carbon neutrality means measuring the carbon emissions for an identified product, service or company, then balancing those emissions with carbon reductions or carbon offsets to reach net zero carbon emissions.

Carbon Sequestration:
The uptake and storage of carbon. Trees can be used for carbon sequestration because they absorb carbon dioxide, release the oxygen and store the carbon

Closed-loop recycling:
The process of utilizing a recycled product in the manufacturing of a similar product or the remanufacturing of the same product.

Community Supported Agriculture (CSA)
A community of individuals who pledge support to a farm operation so that consumers provide mutual support and sharing the risks and benefits of food production.

Conservation Design
Conservation Design is a controlled-growth land use development technique that promotes the developable use of land in such a manner that takes into account the natural landscape and ecology of a development site while maintaining the site's most valuable features and functions.

Cradle-to-cradle:
A design philosophy put forth by architect William McDonough that considers the life-cycle of a material or product. Cradle-to-Cradle design models human industry on nature's processes, in which materials are viewed as nutrients circulating in healthy metabolisms.

Deforestation:
The conversion of forested land to other non-forested uses by the removal and destruction of trees and habitat. Deforestation is cited as one of the major contributors to global warming.

Ecosystem:
A place having unique physical features, encompassing air, water, and land, and habitats supporting plant and animal life, including humans.

Energy Efficiency:
Using less energy to fulfill the same function or purpose; usually attributed to a technological fix rather than a change in behavior, examples include better insulation to reduce heating / cooling demand, compact fluorescent bulbs to replace incandescent, or proper tire inflation to improve gas mileage.

Environment:
The ecosystem in which an organisms or a species lives, including both the physical environment and the other organisms with which it comes in contact.

Eutrophication:
The process by which a body of water accumulates nutrients, particularly nitrates and phosphates. This process can be accelerated by nutrient-rich runoff or seepage from agricultural land or from sewage outfalls, leading to rapid and excessive growth of algae and aquatic plants and undesirable changes in water quality.

Fossil Fuel:
Any petroleum-based fuel source such as gasoline, natural gas, fuel oil, etc.

Global Warming:
This refers to a specific type of climate change, an increased warming of the Earth's atmosphere caused by the buildup of man-made gases that trap the sun's heat, causing changes in weather patterns and other effects on a global scale. These effects include global sea level rise, changes in rainfall patterns and frequency, habitat loss and droughts.

Greenhouse Gases (GHG):
These gases are so named because they contribute to the greenhouse effect due to high concentrations of these gases remaining in the atmosphere. The GHGs of most concern include carbon dioxide (CO2), methane (CH4), nitrous oxides (N2O).

Greenhouse Effect:
The trapping of heat within the Earth's atmosphere by greenhouse gases such as carbon dioxide, which accumulate in Earth's atmosphere and act as a blanket keeping heat in.

Geothermal Energy
Energy from rock and/or water that is heated by contact with molten rock deep in the earth's core (ie, magma). The heat can be extracted and used for space heating or to generate electricity.

Green Building:
A comprehensive process of design and construction that employs techniques to minimize adverse environmental impacts and reduce the energy consumption of a building, while contributing to the health and productivity of its occupants; common metrics for evaluating green buildings include the LEED (Leadership in Energy and Environmental Design) certification and Australia's Green Star program.

Green Design**:**
A term used in the building, furnishings, and product industries to indicate design sensitive to environmentally-friendly, ecological issues.

Hybrid:
A car that runs on both electric battery and fuel, making the gas mileage extremely efficient and also produces fewer emissions which help control pollution in the environment.

LEED™ (Leadership in Energy and Environmental Design):
A green building rating system encouraging and accelerating global adoption of sustainable green building and development practices through the creation and implementation of environmental tools and performance criteria.

Low Impact Development:
Low impact development (LID) is a term used in the United States to describe a land planning and engineering design approach to naturally manage stormwater runoff.

Indicator
A summary measure that provides information on the state of, or change in, a system.

Non-Renewable Resource
A resource with a more or less finite initial endowment that can be depleted over time.

Post-Consumer Recycled Content:
Material that is recovered after its intended use as a consumer product, then reused as a component of another product. Examples of post-consumer waste that are recycled include carpet tiles (for new yarn and tile backing), aluminum cans, PET soda bottles, and office paper.

Post-Industrial Recycled Content:
Also known as Pre-Consumer Recycled Content, it is waste material from manufacturing processes that is reused as a component of another product. Post-industrial recycled content comes from material that would have otherwise been waste, and has undergone some physical recycling process. Examples of post-industrial waste that are recycled include yarn extrusion waste, metal scrap, and fiber in paper manufacturing.

Recycling:
The series of activities, including collection, separation, and processing, by which materials are recovered from the waste stream for use as raw materials in the manufacture of new products.

Recyclable:
A designation for products or materials that are capable of being recovered from, or otherwise diverted from waste streams into an established recycling program.

Recycled Content:
Refers to the amount of recycled materials in a product – typically expressed as a percentage.

Renewable Resources:
A resource that can be replenished at a rate equal to or greater than its rate of depletion. Examples of renewable resources include corn, trees, and soy-based products.

Resource:
An asset.

Repurposing:
Cleaning or refurbishing that allows a product to be reused again in its current form, thereby extending its useful life.

Stakeholder:
An individual or group potentially affected by the activities of a company or organization; in sustainable business models the term includes financial shareholders as well as those affected by environmental or social factors such as suppliers, consumers, employees, the local community, and the natural environment.

Standards:
Governmental or privately-created lists of criteria used to regulate or evaluate the products or behavior or corporations. Standards can play a critical role in stimulating the market and giving companies information to create better products or change corporate behavior. An example is the LEED green building rating system for buildings.

Sustainable Development
Development which seeks to produce sustainable economic growth while ensuring future generations' ability to do the same by not exceeding the regenerative capacity of the nature.

Sustainability:
The aspiration to ensure that meeting the needs of the present does not compromise the ability of future generations to meet their own needs, the most widely accepted definition comes from "Our Common Future," Report of World Commission on Environment and Development, commonly called the The Brundtland Report).

Threshold:
When used in reference to a species, an ecosystem, or another natural system, it refers to the level beyond which further deterioration is likely to precipitate a sudden adverse, and possibly irreversible, change.

Urban Agriculture
The practice of cultivating, processing and distributing food in, or around an urban area.

Volatile Organic Compounds (VOC):
Compounds that evaporate from many housekeeping, maintenance and building products made with organic chemicals. In sufficient quantities, VOCs can cause irritation and some are suspected of causing or exacerbating acute and chronic diseases.

Waste-to-Energy:
The burning of waste in a controlled-environment incinerator to generate steam, heat, or electricity.