Toward a ***Sustainable*** Community:

A Toolkit for Local Government

"The future is literally in our hands to mold as we like. But we cannot wait until tomorrow. Tomorrow is now." –*Eleanor Roosevelt*

Toward a *Sustainable* Community:

A Toolkit for Local Government

Authors:

Sherrie Gruder, *UW-Extension, Madison, Solid and Hazardous Waste Education Center*

Anna Haines, *UW-Stevens Point, Center for Land Use Education*

Jerry Hembd, *UW-Superior, Northern Center for Community and Economic Development*

Lisa MacKinnon, *1000 Friends of Wisconsin*

Jane Silberstein, *UW-Extension, Ashland County*

Peer review:
Andrew Dane, UW-Extension, Barron County
Elaine Andrews, UW-Extension Environmental Resource Center

Contribution on full cost accounting by Jay Moynihan, UW-Extension, Shawano County

©January, 2007. All rights reserved. Available electronically at *www.shwec.uwm.edu*

Funded in part by Focus on Energy.
SHWEC Pub. No. 625.SG.0701

Cover photos (top to bottom): S. Gruder, M. Rehwald, 1000 Friends of Wisconsin, and S. Gruder.

focus on energy
The power is within you.

UW Extension

This is a crucial time for people to rethink how we meet our needs today to help to ensure a desirable future for following generations. Local government officials must play their part in reinventing our institutions to help communities and residents stay healthy and whole. This is because we have entered an era where human generated pressures on the natural world are unprecedented and threaten our current way of life. A few examples include depletion of nonrenewable resources – 65% of U.S. oil is gone and the world is at or past peak oil; insufficient drinking water for two thirds of the world's population; consumption of land and loss of topsoil at unsustainable rates; projected loss of 90% of the world's fisheries by 2048; extinction of a distinct species of plant or animal, on average, every 20 minutes (qualifying the present period as one of the six great periods of mass extinction in the history of Earth[1]); and the presence of 250 persistent toxic chemicals not known before 1945, many of which are now found in human tissues.

Global climate change is considered the most serious threat facing the world today. Due to human activities, our atmosphere contains 32 percent more carbon dioxide, one of the main greenhouse gases that keeps heat from escaping the earth's surface, than at the start of the industrial era.[2,3] Carbon dioxide is one of the main greenhouse gases that keeps heat from escaping the earth's surface. We put 70 million tons of it into the atmosphere every 24 hours.[4] Global warming, one measure of climate change, reveals a rise in the average global temperatures substantially higher than at any time in the last 1,000 years. **"Climate change threatens the basic elements of life for people around the world – access to water, food production, health, and use of land and the environment."[5]**

Sir Nicholas Stern, the former chief economist of the World Bank, released a report warning that not fighting global warming now could bring on a worldwide depression, shrinking the global economy by 20%. The report states that if we continue with the status quo rather than taking action to address global climate change, up to 200 million people could become refugees as their homes are hit by drought or flood. **Stern found that the cost of action to cut emissions is manageable and that the economics show it is urgent to cut emissions now. "Mitigation – taking strong action to reduce emissions – must be viewed as an investment," the report states.**

Yet, a time of great challenge is also a time of great opportunity. And local governments can be instrumental in moving communities toward solutions.

Local governments have a key role to play in reducing greenhouse gas emissions by increasing energy efficiency and reducing fossil fuel use.[6] Some approaches include phasing out coal plants, expanding renewable energy sources and public transit, and implementing new efficiency standards for vehicles and buildings. Local governments can also pass policies that protect natural resources, which are climate-sensitive public goods.

[1] Levin, Donald, A., The Real BioDiversity Crisis, American Scientist, January-February 2002

[2] Oreskes, Naomi, Beyond the Ivory Tower: The Scientific Consensus on Climate Change, Science 3 December 2004: Vol. 306. no. 5702, p. 1686

[3] Intergovernmental Panel on Climate Change Fourth Assessment Report, Climate Change 2007: The Physical Science Basis, Summary for Policy Makers, February 2007. With input from 2,500 of the world's leading scientists, economists and risk experts, is the most comprehensive evaluation of climate change. http://www.ipcc.ch/SPM2feb07.pdf

Also see Union of Concerned Scientists, Global Warming FAQs www.ucsusa.org/global_warming/science/global-warming-faq.html

[4] Gore, Al, Transcript: Finding Solutions to the Climate Crisis, New York University School of Law, September 18, 2006

[5] Stern Review: The Economics of Climate Change, Executive Summary, p. vi, October 30, 2006.

[6] David Suzuki Foundation, Climate Change: Impacts and Solutions http://www.davidsuzuki.org/Climate_Change/Science/

Contents

Introduction **6-11**
Why this Toolkit? 6
What is Sustainable Development? 6
The Natural Step Approach 7
How to Move Toward Sustainability 8

Guidance for Adapting Local Government Functions **12-34**
Energy 12-15
- Purpose 12
- Strategy 12
- Actions 13
- Case Studies 14
- Resources 14

Buildings 16-19
- Purpose 16
- Strategy 16
- Actions 17
- Case Studies 18
- Resources 19

Transportation/Mobility 20-23
- Purpose 20
- Strategy 20
- Actions 21
- Case Studies 22
- Resources 23

Procurement 24-25
- Purpose 24
- Strategy 24
- Actions 24
- Case Studies 25
- Resources 25

Investments 26-31
- Purpose 26
- Strategy 27
- Actions 27
- Case Studies 29
- Resources 30

Human Resources 32-34
- Purpose 32
- Strategy 32
- Actions 32
- Case Studies 33
- Resources 34

Appendices 35-47

1. Benefits of Using the Natural Step Sustainability Framework to Guide Implementation of Madison's Sustainable City Goals 35

2. Sustainable Chequamegon Region: A Grass Roots Movement 36

3. Fano Guidelines for Successful Local Sustainability Policies 37

4. City of Marshfield Letter 38

5. Sample Resolutions for Becoming an Eco-municipality 39-45

5A. City of Ashland 39

5B1. Bayfield County 40

5B2. Town of Bayfield 41

5C. Douglas County 42

5D. Village of Johnson Creek 43

5E. City of Madison 44

5F. City Of Washburn 45

6. Madison Mayor's Memo Outlining The City's Reasons For Using TNS 46-47

Introduction

Why this Toolkit?

Individuals and groups across Wisconsin are calling upon local governments to enact policies and take actions that are aligned with the principles and concepts of sustainability. Several communities and a county in Wisconsin have recently shown leadership by adopting resolutions stating their intent to follow well-accepted principles and concepts of sustainability. They are becoming "eco-municipalities" or "green communities" or "sustainable communities."

"Just suppose, for a minute, that all the departments, boards and agencies of a city or town, and all the sectors of the larger community have a common vision about a sustainable community future and a shared understanding of a new set of playing rules for how to get there."

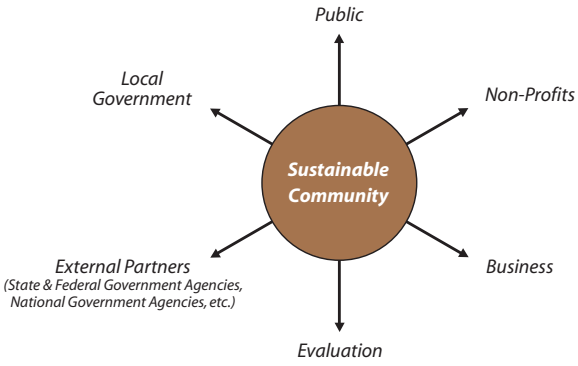
– "The Natural Step for Communities: How Cities and Towns Can Change to Sustainable Practices," by Sarah James and Torbjörn Lahti

The purpose of this toolkit is to provide ideas and descriptions of specific actions that a local government can take to transform itself into a model of sustainable practices. These practices can result in cost savings and increased employment, and enhance environmental quality and community well-being. The message of this toolkit is simple: local governments can lead by example.

The focus of this toolkit is narrow, by design, and intended to address only the internal workings of local government. Specifically, it addresses sustainable approaches to energy, building, transportation, purchasing, investment, and hiring. It provides practical tools for making these functions of local government more supportive of long-term human and environmental health and well-being. It provides strategies that can be implemented through traditional means of policy development, fiscal administration, local government programs, and education. Other important areas where government can lead by example and that should be included in local sustainability programs but that are not included in this toolkit include storm water and drinking water, integrated waste management, and natural resource management. In addition, this guide does not address comprehensive planning, food systems, parks and open space, and many of the other areas that local governments address in their daily work. Future guides are planned to address those issues.

The various local government functions and strategies listed in this guide are intended to be viewed and implemented as part of a whole system approach to sustainability. If they are approached and implemented in a piecemeal manner, the objective of sustainability will be more difficult to achieve.

Finally, a significant dimension to building sustainable communities is the process of engaging the entire community. While it is not specifically addressed by this toolkit, it should be incorporated into any sustainable community program design.



What is Sustainable Development?

The "Brundtland Report" definition of sustainable development – shown below – has been the most commonly used or cited definition since 1987 when the world community gathered to address this critical issue. Sustainability acknowledges the biophysical or environmental limits that the natural world imposes on economic activity and social and political institutions.

Recently, emphasis has shifted to the *science of sustainability* and a focus on the core principles of ecological limits. Regardless of the definition or approach, there is a shared sense that sustainable development explicitly recognizes the interconnections and relationships between the economy,

"Sustainable development is...development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

– World Commission on Environment and Development, Our Common Future, 1987

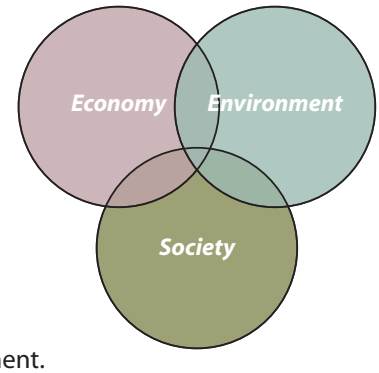
Photos by (from left): S. Gruder, L. MacKinnon, 1000 Friends of Wisconsin

society, and the environment. These are often seen as three types of capital – economic, social, and natural.

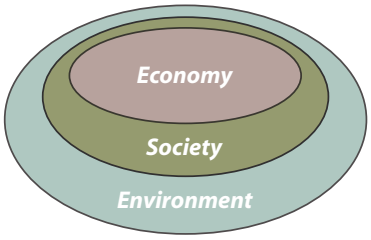
When sustainable development has been represented as three interconnected types of capital, the emphasis is on the linkages between the economy, society, and the environment.

But when a systems view is used, the emphasis shifts specifically to the ecological limits imposed on the economy and society. In this case, a concentric circles diagram is used to model sustainability and sustainable development. Here, the economy and society function within a larger environmental system, or biosphere, and are limited by the carrying capacity of the natural environment.

The Linkages View of Sustainable Development



The Systems View of Sustainable Development



This concept of sustainability speaks to the need for consideration of all forms of capital in community decision making but places prime importance on the services of natural capital that are essential to all life on this planet.

The Natural Step Approach

This toolkit presents the principles of "The Natural Step" as a sustainability framework, both because it works and because it has been adopted by a growing number of Wisconsin local governments. It provides a shared framework around which they and other communities are developing and implementing sustainable practices. But which framework a local government adopts – and there are others available – is less important than the act of adopting one. Such a step is a key part of the process of moving toward sustainability.

S. Gruder photo

Karl-Henrik Robèrt, founder of The Natural Step.

The Natural Step (TNS) sustainability framework and process originated in Sweden in 1983.[7] The first Swedish eco-municipality, Övertorneå, was a pilot project that used this framework in a northern rural town of 5,000. Success in Övertorneå sparked what today is a network of 70 eco-municipalities across Sweden. These eco-municipalities represent over a quarter of the country's municipalities, ranging from villages of 300-400 residents to the capital city of Stockholm with a population of over 700,000. Many communities around the world are now exploring and implementing this model and a number of Wisconsin's communities are among the first in the United States to do so.

Five local governments in northern Wisconsin – the Cities of Washburn and Ashland in 2005 and the City of Bayfield, Town of Bayfield and Douglas County in 2006 – adopted resolutions stating their intention to become eco-municipalities based on this model. The City of Madison launched a sustainable city program in 2004 and passed a resolution adopting The Natural Step as its guiding sustainability principle in 2005. Madison city staff from all twenty- five departments were then formally trained in The Natural Step framework in 2006. Also in 2006, the Village of Johnson Creek in

The Natural Step's Four System Conditions for a Sustainable Society

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

- concentrations of substances extracted from the Earth's crust;
- concentrations of substances produced by society;
- degradation by physical means;

and, in that society,

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

Source: The Natural Step

Jefferson County passed a resolution adopting the The Natural Step sustainability principles.

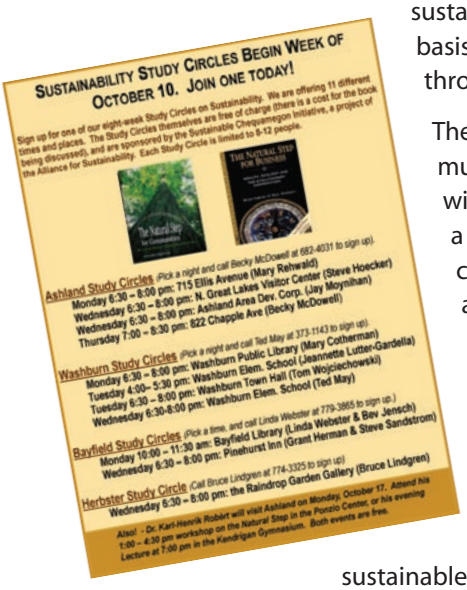
What is an eco-municipality? It is a city, town, or region that aspires to develop an ecologically, economically, and socially healthy community for the long term, using The Natural Step or other framework for sustainability[8] as a guide, and a democratic, highly participative development and decision-making process as the method.

M. Rehwald photo

Sarah James and Torbjörn Lahti conducting a seminar on the eco-municipality model for Wisconsin communities.

The Natural Step takes a "systems approach" to creating sustainability. It is based, in large part, on laws of nature. Embedding the non-negotiable laws of nature in business, government, institutions, and the way we operate as a society is an identified route toward sustainability. In order to be sustainable over the long term, laws and policies developed by humans must cooperate with, mimic, or be consistent with the laws of nature. The Natural Step is a key international example of a science-based sustainability initiative.

According to the authors of *The Natural Step for Communities: How Cities and Towns Can Change to Sustainable Practices,* Sarah James and Torbjörn Lahti, "Many communities in the United States and around the world have initiated and are carrying out sustainable development projects. Green building programs, affordable housing, open space preservation, recycling, climate change initiatives, smart growth initiatives, are just a few of these. While these initiatives have made progress toward sustainable goals, they largely are occurring on a project-by-project or issue-oriented basis. Frequently these efforts, as laudable as they are, are unconnected and unintegrated throughout municipal governments and the larger communities."



SUSTAINABILITY STUDY CIRCLES BEGIN WEEK OF OCTOBER 10. JOIN ONE TODAY!

Sign up for one of our eight-week Study Circles on Sustainability. We are offering 11 different times and places. The Study Circles themselves are free of charge (there is a cost for the book being discussed), and are sponsored by the Sustainable Chequamegon Initiative, a project of the Alliance for Sustainability. Each Study Circle is limited to 8-12 people.

Ashland Study Circles (Pick a night and call Becky McDowell at 682-4031 to sign up).
Monday 6:30 – 8:00 pm: 715 Ellis Avenue (Mary Rehwald)
Wednesday 6:30 – 8:00 pm: N. Great Lakes Visitor Center (Steve Hoecker)
Wednesday 6:30 – 8:00 pm: Ashland Area Dev. Corp. (Jay Moynihan)
Thursday 7:00 – 8:30 pm: 822 Chapple Ave (Becky McDowell)

Washburn Study Circles (Pick a night and call Ted May at 373-1143 to sign up).
Monday 6:30 – 8:00 pm: Washburn Public Library (Mary Cotherman)
Tuesday 4:00– 5:30 pm: Washburn Elem. School (Jeannette Lutter-Gardella)
Tuesday 6:30 – 8:00 pm: Washburn Town Hall (Tom Wojciechowski)
Wednesday 6:30-8:00 pm: Washburn Elem. School (Ted May)

Bayfield Study Circles (Pick a time, and call Linda Webster at 779-3865 to sign up.)
Monday 10:00 – 11:30 am: Bayfield Library (Linda Webster & Bev Jensch)
Wednesday 6:30 – 8:00 pm: Pinehurst Inn (Grant Herman & Steve Sandstrom)

Herbster Study Circle (Call Bruce Lindgren at 774-3325 to sign up)
Wednesday 6:30 – 8:00 pm: the Raindrop Garden Gallery (Bruce Lindgren)

Also! - Dr. Karl-Henrik Robèrt will visit Ashland on Monday, October 17. Attend his 1:00 – 4:30 pm workshop on the Natural Step in the Ponzio Center, or his evening Lecture at 7:00 pm in the Kendrigan Gymnasium. Both events are free.

They go on to say, "In contrast to this 'silo approach' to sustainable development, the eco-municipality model uses a *systems approach*. Key ingredients of this systems approach are widespread community awareness-raising and integrated municipal involvement, using a common "sustainability language" based upon the Natural Step framework. Using this common language brings about a shared understanding of what sustainability means and how to achieve it throughout all sectors of municipal government and the wider community. The likelihood of conflict and competition among resulting actions is therefore minimized, since all sectors are using the same 'sustainability playing rules.' "[9]

How to Move Toward Sustainability

There are a number of fundamental steps a municipality can take to initiate a sustainable community program although there is no single route. Local governments can provide leadership to organize the process through municipal channels; or, this can occur through community involvement and grassroots efforts (see Appendix 2, Sustainable Chequamegon Initiative) ; or, it can evolve through both top-down and bottom-up approaches (see Appendix 3, Fano Guidelines). Ten basic steps to consider are outlined below.

1. **Convene a task force**/committee/study group/green team (see Appendix 4, Marshfield Mayor's letter to prospective eco-municipality committee members).
    - Purpose: develop recommendations with regard to sustainable community development for consideration by elected officials.
    - Group make-up: include wide representation of various businesses, utilities, architecture, engineering, energy experts, watershed experts, farmers, local environmental non-profits, city departments, local officials, local residents,

community social agencies, schools, faith-based groups, university, two-year campus or technical colleges.

- Process: Assess the current situation – identify existing green initiatives; identify key areas and opportunities; identify gaps and barriers; develop a vision statement and key goals; recommend actions based on goals.

2. **Commit to becoming a sustainable community through a formal resolution** (see Appendix 5, A through F, for local community resolutions)

3. **Adopt a guiding principle or framework for sustainability.** This guide presents the principles of The Natural Step as a sustainability framework because it works as both a process and as a measure of what constitutes sustainability based on the fundamental laws of science. It has been adopted by a number of Wisconsin local governments, the American Planning Association, and communities around the world, including many Canadian cities.[10] But there are other examples, as well, and communities across the country have developed their own frameworks and have excellent web sites where it is possible to review their work.

   The applicability of The Natural Step to local planning and sustainable development efforts has been recognized by the American Planning Association (APA). In its *Planning for Sustainability Policy Guide,* the guiding objectives for policies and practices are based on The Natural Step's "four system conditions for a sustainable society" (see Appendix 1, Benefits of Using the Natural Step Sustainability Framework to Guide Implementation of Madison's Sustainable City Goals).

M. Rehwald photo

Washburn City Council discussing eco-municipalities and The Natural Step framework.

4. **Establish a standing committee** or advisory board to oversee implementation of the sustainable community program and to further develop a strategic sustainable community plan. Consider a committee of 12-15 members with varying length terms and strengths that complement the implementation plan.

5. **Establish a department, reconfigure existing departments, or appoint or hire a director of sustainable development.** The purpose of this "office of sustainable development" is to implement the strategic sustainability plan, leverage investments wisely, and coordinate the program across departments. Include a staff representative from each department to be the green liaison or point person. Note: Sustainability is necessarily a holistic approach and therefore negates the traditional silo approach of government.

Objectives of APA's Strategy for Planning for Sustainability

Planning for sustainability requires a systematic, integrated approach that brings together environmental, economic and social goals and actions directed toward the following four objectives:

- Reduce dependence upon fossil fuels, extracted underground metals and minerals.
- Reduce dependence on chemicals and other manufactured substances that can accumulate in Nature.
- Reduce dependence on activities that harm life-sustaining ecosystems.
- Meet the hierarchy of present and future human needs fairly and efficiently.

Source: American Planning Association's Planning for Sustainability Policy Guide, 2000. http://www.planning.org/policyguides/sustainability.htm

6. **Educate and train staff and officials across departments about sustainability.** This is important for creating organizational capacity to lead by example and move toward sustainability. Education is also key to integrating sustainability effectively into the government culture.

   - The City of Madison has undertaken this step. Madison trained personnel across 25 departments in The Natural Step to develop a common language and integrated approach to sustainability citywide. As a result of the training and continuing application of lessons learned by interdepartmental teams, staff will be able to make decisions based on sustainability impacts, evaluate existing programs, policies and practices as to whether they meet the systems conditions for sustainability, develop short- and long-term action plans to achieve sustainability, and prioritize and initiate new projects and policies based on the city's sustainability goals (see Appendix 6, Madison Mayor's Memo.).

7. **Establish demonstrations.** Either move various existing initiatives into examples of sustainability or initiate new projects that showcase sustainability principles. This provides staff with experience using sustainable planning, decision making and green practices, allows leadership to show progress and success, and provides the private and public sector local models and successes to learn from and emulate.

8. **Adopt Full Cost Accounting.** Full Cost Accounting, or "FCA", is the analysis of all the costs, as well as the advantages, of all proposed alternatives, and the presentation of those findings to decision makers. In FCA, "cost" is not just the monetary cost to the organization making decisions. It also includes the social and environmental costs to anyone else affected by the decision. This process can be especially useful for government agencies that represent a variety of interests when deciding how to allocate public funds and/or other resources. Organizations that use FCA have experienced budget savings.

   Performing an FCA helps avoid "externalizing" a cost. In economics an externality is a cost "side-effect". In the context of local government decision making, a decision that may not create a direct cost for the decision maker or her department or program can often create negative costs for somebody else's department or program, and that will ultimately cost the community as a whole.

   FCA can be applied across the broad range of decisions made every day by local governments. For example, in purchasing fleet vehicles a local government can use FCA to help choose between different options. One of the vehicle options might have the lowest "purchase price" but, from a lifecycle perspective, the local government will need to determine whether it's *really* the "less expensive vehicle" if it uses more fuel and releases more toxins and carbon dioxide. The public health and quality-of-life costs affected by

S. Gruder photo

Our future generation.

that decision are not truly external to local government. FCA will help you determine the costs of those "cheaper" vehicles' "side effects" to your the community, residents and others affected by the decision.

Another example would be using FCA on a community's solid waste operations. In this case, the community would need to go beyond a simple analysis of the capital and operating costs of a facility. FCA would include:

- Front-end costs of engineering and site planning
- Direct and indirect daily operating costs:
  - *Direct cost* – costs of specific services, salaries, parts, interest on debt
  - *Indirect cost* – costs of support from general government services such as purchasing, administration, legal, fleet maintenance
- Back- end costs such as closing a facility at the end of its useful life, post-closure care and monitoring

9. **Measure, track, record, and report progress and results.** What gets measured gets accomplished. Local governments can demonstrate leadership by assessing and continuously improving their contribution to a sustainable community. Sustainability indicators typically are tied to the sustainable community goals and measure progress toward meeting each of the goals. There are many examples of community sustainability indicators.[11] Minneapolis, Minnesota, for example, created a sustainable city plan in 2003 with 24 indicators ranging from water quality to public health.[12] The process of developing indicators can bring different sectors of the community together. "Indicators reveal the common goals and shared values that foster alliances across traditional boundaries, provide citizens with a better compass for understanding community problems and maximizing regional assets, and compel change toward progress" according to Redefining Progress in the *Community Indicators Handbook,* 2nd Edition, a best practices resource.[13]

10. **Publicize.** Communicate the efforts and results to staff, local officials, and to the private, public, and non-profit sectors.

The goal of this toolkit is to provide towns, cities, villages, counties and regions with specific actions to take to preserve options for future generations and for enhancing quality of life and securing the health of people, the economy, and the environment now and for the future. As local governments move forward with a process, whether using the ten steps outlined above or some others, consider working with county University of Wisconsin-Extension community development and natural resource educators to help move toward a sustainable community.

The next sections of this guide discuss the purpose, strategy and actions of specific areas within local government. Within each section are one or two case studies as well as a list of specific resources.

Santa Monica, California (http://santa-monica.org/epd/) developed a Goal/Indicator Matrix that not only measures progress for each goal but demonstrates linkages between the areas. As a result, on the ten-year anniversary of their sustainable city program, Santa Monica was able to report their successes to the public.

This included reducing dry weather pollution to the Bay by 95%; first U.S. city to buy 100% renewable electricity and cut greenhouse gas emissions by 6%; toxic-free parks and public buildings; water savings of over 328,500,000 gallons per year; established a Blue Line (voted best bus line in the country) and is now a leader in clean air technology; a growing group of sustainable business leaders helping the local economy, environment, and quality of life.

[7] James, Sarah and Torbjörn Lahti, 2004, The Natural Step for Communities: How cities Cities and Towns Can Change to Sustainable Practices, New Society Publishers, British Columbia, Canada.

[8] For more about the Natural Step, go to www.naturalstep.org.

[9] James, Sarah and Torbjörn Lahti, "The Eco-Municipality Model for Sustainable Community Change: A Systems Approach to Creating Sustainable Communities," 277 pages, May 2005.

[10] The Natural Step Canada, www.naturalstep.ca

[11] Sustainable Measures: Communities That Are Working on Indicators. www.sustainablemeasures.com/Resources/Communities.html

[12] www.ci.minneapolis.mn.us/environment/Sustainability-Initiatives.asp

[13] Community Indicators Handbook, 2nd Edition, 2006; www.redefiningprogress.org/cihb/index.shtml

Purpose

Currently, the energy sources upon which we largely depend – coal, natural gas and oil – have many negative impacts on all three forms of capital: social, economic, and natural. Air pollution and greenhouse gas emissions, primarily from power plants, cars, and buildings, cause respiratory diseases and drive climate change, which in turn adversely affects economic productivity and environmental health (Hurricane Katrina's destruction of New Orleans is but one example).[14] Further, the instability of oil and gas markets and declining availability of oil have high costs for local governments and their constituents.

"The Stone Age did not end for lack of stone, and the Oil Age will end long before the world runs out of oil."

– Sheikh Zaki Yamani, ex-Minister of Energy, Saudi Arabia, 1999

The most cost-effective way to reduce these negative impacts is to increase energy efficiency – that is, squeezing more productivity out of the energy we use, which enables us to use less of it. By consuming less energy, we reduce the need for energy production in the first place and realize immediate savings. Coupling that with using clean energy from locally available renewable sources including solar, wind, biogas, and biomass will bring Wisconsin closer to energy independence and economic sustainability.

Local governments' facilities and operations use significant amounts of energy. Due to their relatively large power and fuel purchases, as well as involvement in smart growth and economic development plans, there are many opportunities for promoting clean energy initiatives. Using green approaches to planning, designing and operating buildings, developments and transportation can accommodate growing populations and economies while reducing dependence on external energy sources. This promotes resource efficiency and provides meaningful savings to taxpayers and improvements in the health of local communities.

Benefits of Renewable Energy:

- Stabilizes energy costs for a community, its businesses and residents
- Grows employment opportunities
- Keeps dollars in the local economy
- Preserves a community's quality of life, air, water and land
- Reduces reliance on foreign and polluting sources of energy

Energy sustainability is about finding alternative ways of structuring the energy sector, and alternatives to our fossil-fuel based economy. Its goal is to provide plentiful, reasonably priced energy to all sectors of society safely and to support the health of our economy, people and environment without limiting the ability of future generations to meet their energy needs. Energy savings and the adoption of renewable forms of energy are key approaches to achieving this.

Strategy

Leading by example, local governments can green their own facilities and operations, influence the private sector, and work with local groups to educate, empower and challenge their local residents. They can help inspire change and drive innovation.

Public officials can:

- Adopt policies that set targets for renewable energy purchase and installation and energy efficiency goals for government facilities, operations and transportation;
- Influence local building codes, specifications and standards to promote renewables purchase and installation, energy efficiency and green design;
- Initiate a multi-departmental sustainable energy effort in the context of broader sustainable development goals (e.g., smart growth, clean energy initiatives, transportation policies, community health and infrastructure development);
- Reduce fossil fuel use in public transit, purchase electric vehicles and hybrids, use biodiesel and ethanol, establish minimum fuel efficiency standards;
- Develop the urban core for residential living in addition to office and retail;
- Provide incentives and guidelines for the private sector to power and drive green;
- Assess, monitor and report the effectiveness of clean energy strategies and projects including benefits, achievements and savings to share with local businesses and taxpayers;
- Educate city staff, developers and the community about energy efficiency and renewable energy.

U.S. buildings alone are responsible for more CO_2 emissions than those of any entire country in the world except China.

– Kinzey et al., The Federal Buildings Research and Development Program: A Sharp Tool for Climate Policy, 2002 ACEEE proceedings, Section 9.21.

All photos by S. Gruder

Solar hot water heat on low-income housing.

Solar electric awning on Memorial High School, Madison, Wisconsin.

Microturbines at the Sauk County, Wisconsin, landfill.

Solar parking canopy, City of Madison, Wisconsin, and Madison Gas and Electric.

Actions

Local government can lead by example by establishing renewable energy and energy efficiency policies and goals, and an implementation plan to achieve them. The steps should include the following:

1. Pass a resolution that the local government will save, power, transport and build green. Consider adopting the Kyoto Protocol by signing on to the Mayors' Climate Protection Agreement;[15]
2. Form an integrated clean energy team as partners to implement the clean energy program, including the local government, local utility and fuel providers, businesses, non-profits and farmers. This team can help to develop, stimulate, promote and attract local green energy initiatives and businesses as an economic development opportunity;
3. Create and adopt sustainable energy principles, plans, and incentives including a measurable goal such as 10% energy reduction in city operations by 2010 with a certain percentage of the savings staying with the departments that achieved them;
4. Adopt the U.S. Green Building Council's LEED Green Building Rating System – Leadership in Energy and Environmental Design – for Existing Buildings (EB) as a performance standard to upgrade and operate city buildings to higher efficiency;
5. Require that new homes meet ENERGY STAR[16] homes standards, and encourage use of Wisconsin Green Built Home or the LEED for Homes programs;
6. Allocate staff time for training and an adequate budget for energy analysis and upgrades;
7. Make renewable energy use and efficiency part of standard procedures. Modify requests for proposals, specification and contract language to ensure sustainable energy policies and procedures are an integral part of each project. Modify building and vehicle codes and standards;
8. Adopt purchasing policies for ENERGY STAR[17] equipment and computers;
9. Build bike trails and lanes and provide bike racks;
10. Develop a few demonstration renewable energy projects as models, e.g., a renewable energy commercial center, housing project, school or vehicle fleet;
11. Document energy use and respective savings and monitor performance over time.

Green Building Saves Energy and Money. The energy savings from green building result primarily from reduced electricity purchases and from reduced peak demand.

"On average, green buildings are 28% more efficient than conventional buildings and generate 2% of their power on-site from photovoltaics (PV). The financial benefits of 30% reduced consumption at an electricity price of $0.08/kWh are about $0.30/ft2/yr, with a 20-year NPV of over $5/ft2, equal to or more than the average additional cost associated with building green."

Source: Kats, Gregory H., Green Building Costs and Financial Benefits, 2003, developed for the Massachusetts Technology Collaborative. http://www.cap-e.com/ewebeditpro/items/O59F3481.pdf

Case Study

Madison, Wisconsin Green Framework

Madison adopted a comprehensive green framework, much of which has energy impacts: Build Green/Power Green/Save Green/Buy Green/Drive Green/Manage Green. Within this framework, green building has been a central focus because of its potential for enhancing energy conservation and efficiency (see Green Building chapter). Madison set a goal of purchasing 10% of its annual electricity from renewable sources by 2007 and 20% by 2010 in keeping with the state targets. The city is also planning a Solar Mile along a main thoroughfare to highlight its commitment to renewable energy.

Solar panel installation.

Kay Schindle photo

City of Madison fire station solar thermal panel installation.

Madison hired an energy engineer to measure city building energy use and to assess city properties for their solar energy suitability. In order for the engineer to establish city baseline energy use and to track energy savings, the city purchased energy software. The energy engineer attended the solar site assessor training provided by The Midwest Renewable Energy Association. Additionally, the city received technical assistance, funding, and incentives from Focus on Energy, Madison Gas & Electric (MGE) (its main utility), Wisconsin Energy Conservation Corporation (WECC), MSB Energy Associates, UW-Extension and U.S. Department of Energy's Million Solar Roofs Program. The city also trained its facilities operations and engineering staff in commissioning and retro-commissioning, building in-house expertise to evaluate space use, identify sub-optimal lighting and HVAC performance, and to upgrade systems.

Energy efficiency projects: installing meters and measuring energy use in all city buildings, increasing roof insulation and retrofitting lighting with high efficiency lamps in two buildings being repaired; commissioning a new engineering building to optimize mechanical system operations; continued retro-commissioning of existing facilities; and developing lighting, heating and ventilation standards for city facilities and targeted upgrade projects. Energy trainings will be conducted with 35 staff across city departments. Five new hybrid buses will be purchased by Madison Metro, fuel-efficient fleet cars are being purchased, and a fuel-efficiency standard for city vehicles developed. Purchasing specifications for ENERGY STAR computer equipment are being developed and a power management software evaluation is underway monitoring the power usage of 100 city PC users to reduce power consumption of non-critical computers.

Implementation

- Mayor funds green initiatives in capital budget
- Mayor promotes program via press conference, TV City Channel, appearances, etc.
- Mayor appoints smaller Sustainable Design & Energy Commission for implementation

The Capital Times

Mayor wants city to be bright green

Renewable energy initiatives include: analyzing all city fire stations, libraries and field operations for suitability for solar energy; installing solar hot water heat or solar thermal panels on two fire stations and the Monona Terrace Convention Center; incorporating solar thermal into the design of a parks maintenance facility; teaming with MGE to identify and install visible renewables installations; and including renewables in the Mayor's capital budget. A solar canopy at the city pool, a wind turbine on a public golf course and photovoltaic panels and educational energy monitoring computers at a library are being considered for joint MGE projects. Capital budget funding was secured for outfitting eight other fire stations with solar thermal heating in 2007.

Resources

Focus on Energy:

- Energy efficiency for government facilities: For program information and assistance, call 1-800-762-7077 or e-mail at Govinfo@focusonenergy.com

- Renewable energy information and incentives: a detailed web site including fact sheets, case studies, resources and contractors. Also includes technical assistance, site assessments and cash incentives for installations and feasibility studies. *www.focusonenergy.com/page.jsp?pageId=130*

The Center for Renewable Energy and Sustainable Technology (CREST) publishes an extensive listing of reports on renewable energy, including state-by-state economic impacts, as well as development and policy manuals.
www.crest.org

CREST has a report that supports the argument for renewable energy in Wisconsin called Component Manufacturing: Wisconsin's Future in the Renewable Energy Industry, which is available at:
www.crest.org/articles/static/1/binaries/Wisconsin%20Report_Short_2.pdf

Community Energy Opportunity Finder is an interactive tool that will help determine a community's best bets for energy solutions that benefit the local economy, the community, and the environment. The Finder helps a community collect information on its energy use, and then demonstrates the potential energy savings; dollar savings; reductions in carbon dioxide, nitrogen oxides, and sulfur dioxide emissions; and job creation from energy efficiency programs. Developed by Rocky Mountain Institute.
www.energyfinder.org/

Database of State Incentives for Renewable Energy (DSIRE) provides an exhaustive listing of active incentives for renewable energy at every governmental level.
www.dsireusa.org

Energy Center of Wisconsin is a non-profit that serves Wisconsin by providing information and education on energy efficiency.
www.ecw.org

Green-E Renewable Electricity Program is a certified green power provider.
www.green-e.org

ICLEI Local Governments for Sustainability is an association of local governments that have made a commitment to sustainable development. ICLEI provides technical consulting, training, and information services to build capacity, share knowledge, and support local government in the implementation of sustainable development at the local level.
www.iclei.org

Midwest Renewable Energy Association is an extensive resource for renewable energy and energy efficiency in central Wisconsin. They have a Renew
the Earth Institute that showcases renewable energy and holds classes, as well as
the largest sustainable living and renewable energy fair in the country held
annually each June.
www.the-mrea.org

Midwest Rural Energy Council has information and educational tools about renewable energy and efficiency in rural areas.
www.mrec.org/index.htm

RENEW Wisconsin provides detailed information on renewable energy legislative initiatives, utility initiatives, installation case studies, and related information via web site newsletter and issue briefs, and provides project facilitation and educational presentations. This network promotes clean energy strategies – conservation and energy efficiency, renewable energy, and low-emission distributed generation – for powering the state's economy in an environmentally sound manner.
www.renewwisconsin.org

Wisconsin Energy Conservation Corporation (WECC) is a not-for-profit organization that administers energy programs and provides policy analysis to a broad range of customers. For more than 25 years, WECC has worked to provide high-quality, affordable opportunities to increase energy efficiency, lower utility bills, aid in reducing the environmental impacts of energy use and promote economic development in communities.
www.wecc.usa.org

[14] Spreading the Word on Global Warming, ABC News Video on Demand http://abcnews.go.com/Video/playerIndex?id=1774402

[15] "U.S. Mayors' Climate Protection Agreement ", Cities Working Together to Protect Our Air Quality, Health and Environment: A Call to Action. Wisconsin Mayors Friedrich P. Schnook, Ashland; Michael J. Neitzke, Greenfield; John D. Medinger, La Crosse; Dave Cieslewicz, Madison; Irene Blakely, Washburn; Theresa M. Estness, Wauwatosa; Tom Barrett, Milwaukee; Jack F. Chiovatero, New Berlin; Gary Becker, Racine; Don Richards, River Falls; Gary Wescott, Stevens Point; and Jeannette Bell, West Allis, signed the agreement along with mayors in 50 other U.S. states.

[16] Home Performance with ENERGY STAR, a program through Wisconsin Focus on Energy, includes site assessments and cash back rewards for eligible customers. See www.focusonenergy.com or call 1.800.762.7077

[17] EPA's ENERGY STAR products and programs, http://www.energystar.gov/

Purpose

Why Build Green?

There are over 76 million residential buildings and nearly 5 million commercial buildings in the U.S., which cost over $240 billion a year to operate. They account for:

- 36% of total energy use (65% of electricity consumption)
- 30% of greenhouse gas emissions
- 30% of raw materials use
- 30% of waste output (136 million tons annually)
- 12% of potable water consumption

By 2010, another 38 million buildings will have been constructed.

Green Building, or sustainable design, is an approach to building design, construction and operation that considers the building, its property, and place in the community as a whole system to create economical, environmentally sound and healthy spaces in which to live and work. Green buildings are designed to reduce environmental impacts on the site, and on water, energy and resource use while creating healthy indoor environments.

Local governments build, own and operate a wide variety of buildings and facilities including offices, jails, park shelters, libraries, police and fie stations, maintenance buildings, airports and water treatment plants. Local governments also develop land use plans. There are green approaches to planning, designing and operating buildings and developments to accommodate growing populations that will help promote resource efficiency, provide meaningful savings to taxpayers and improve the health of local communities.

The government sector is a significant driver of green building. The U.S. Green Building Council (USGBC), a national non-profit organization that created the LEED (Leadership in Energy and Environmental Design) Green Building Rating System, a third party certification program, has created a market transformation to green building. Although the government sector is a relatively small part of the USGBC membership compared with the design and construction industry, government buildings comprise 45% of the 774 million square feet of LEED green building projects. Ninety local governments across the U.S. have green building policies, three quarters of which adopted the LEED Green Building Rating System. Additionally, 16 states have green building policies as does the federal government.

The benefits of green building to a local government are:

- Decreased costs for building operation and maintenance;
- Decreased costs for community infrastructure (roads, sewer, waste water treatment, energy generation, and landfills);
- Increased productivity;
- Reduced electrical peak demand costs and fossil fuel use;
- Reduced water use;
- Reduced water and air pollution; and
- Enhanced competitiveness by spurring private sector work and living environments with superior health and comfort.

M. Rehwald photo

An increasing number of local builders and organizations in Wisconsin are providing green building and energy services.

Strategy

Local government can lead by example by greening its own facilities and operations, influencing the private sector, and working with local groups to educate, empower and challenge the local citizens.

Public officials can:

- Adopt sustainability principles and green building policies for their own facilities;
- Influence local building codes, specifications and standards to promote green design and construction;
- Provide incentives and guidelines for the private sector to build green;
- Assess and monitor the effectiveness of green strategies and projects; and
- Educate city staff, developers and the community about green building.

"The U.S. Green Building Council has over 60 chapters in 30 countries, including the Wisconsin Green Building Alliance (www.wgba.org) and a membership of more than 7,000 organizations that are creating a market transformation to green building. LEED green building projects cover over half a billion square feet of space or 5% of the commercial marketplace and are located in every state of the U.S." *(as of October 2006), US GBC*

All photos by S. Gruder

Green building team for the Dane County, Wisconsin, Justice Center.

Sustainable development workshop city/private sector training.

Solar site assessment by Focus on Energy for Monona Terrace LEED-EB project, Madison, Wisconsin.

Actions

Local government can lead by example by establishing green building policies and goals and creating a framework to implement them. The steps to take include:

1. Support commitments from local government to build smart. Adopt a green building resolution in the context of broader sustainable development goals (smart growth, community health, infrastructure development, energy initiatives, transportation policies, etc.).
2. Form a multi-departmental green building team – a working group of personnel: parks, public works, water utility, public health, comptroller's office, and purchasing to assist with aspects of green building. Also, consider initiating an advisory group of staff and outside experts such as: private developers, builders, architects, engineers, utilities, non-profits, haulers, renewable energy providers, and motivated residents.
3. Develop an action plan with long- and short short-term actions to green municipal building stock.
4. Create and adopt sustainable building design principles. These can be voluntary and/or mandatory, varying by sector. For example, mandatory LEED certification for city buildings, phased in for private projects receiving TIF funds and for affordable housing. More than forty municipalities have adopted the LEED Green Building Rating System for municipal buildings, additions, renovations and existing buildings.[18]
5. Allocate staff time for green building training and budget for it. Staff include department managers (decision makers), architects, engineers, code officials, facility managers, and landscape/grounds personnel.
6. Make green building part of standard procedures. Modify requests for proposals, specification and contract language to ensure sustainable building policies and procedures are an integral part of each project. Modify building codes and standards.
7. Pilot green building projects as models, e.g., certify a few new buildings and an existing building using the LEED Green Building Rating System
8. Create incentives for building owners and developers to design and build green such as green building commercial and residential tax credits, faster project approval times, density bonuses, reduced storm water fees, etc.
9. Document government building energy, water use, and landfilling and respective savings and monitor performance over time. Use quantification to document benefits, achievements and savings to relate to local businesses and taxpayers.

Three primary challenges to building green are perceptions about budget (first or initial cost), experience of the design/build team, and time. Studies have shown that the cost of designing and building LEED silver and gold buildings is the same or within 2% of traditional buildings. The State of California commissioned the first rigorous assessment of the costs and benefits of green buildings.[19] The report analyzes not only up-front costs but attempts to quantify the environmental and human health benefits of green buildings in financial terms. According to this study, minimal increases in up-front costs in the range of 0-2% will result in life cycle savings of 20% of total construction costs or more than 10 times the initial investment. The operational savings alone over the life of the building return its initial cost many times over. If the cost of personnel is factored in, a mere 1% increase in productivity can cover the energy costs of the building in just one year according to the Rocky Mountain Institute. Yet, governments typically don't consider life cycle costs and they separate capital from operating budgets.

As for the other two challenges, experience of the design team and project timeline, these can be addressed from the outset by indicating in requests for qualifications and proposals the local government's intent to design and construct a LEED certified building. Require teams to submit qualifications to accomplish that. The Wisconsin Green Building Alliance lists professional members involved with green building to target for solicitation. As there is a learning curve with using an integrated design approach and green building, and added time needed for deconstruction rather than demolition of existing buildings, project timelines should be designed to accommodate this.

Case Studies

Madison Green Building Program and Demonstration Projects

In Madison, LEED was adopted for all new and existing city buildings with plans to require it in the future for private sector projects receiving TIF funding. This was adopted as part of the city's *Building a Green Capital City: A Blueprint for Madison's Sustainable Design and Energy Future:*

http://webapp.cityofmadison.com/sustainable_design/index.html

A Sustainable Design and Energy Committee was appointed by Madison's mayor and the city council with diverse representation and partnership to advise municipal officials, administration and staff on implementing green building, energy conservation and renewable energy initiatives as part of a sustainable city program. Members are key stakeholders including: municipal officials, developers, the design and construction industry, utilities, energy conservation and renewable energy providers, Focus on Energy, financial institutions, local community groups and state agencies.

S. Gruder photo

Green roof on City of Madison, Wisconsin, engineering building.

Three pilot building projects are being certified to LEED: Monona Terrace Convention Center as a LEED for Existing Buildings project, the parks maintenance building as a LEED for New Construction, and a library as a LEED for Commercial Interiors project. Green operations policies developed for the Monona Terrace Convention Center are being used as templates for city-wide application, including those for green cleaning and green purchasing, and as templates for other buildings that will be certified under the LEED-EB program. Existing building stock is being evaluated and ranked as to which will go for LEED-EB certification. Madison's mayor also supports private sector LEED projects by appearing at press events for green building openings.

City staff, including engineers, architects, facilities and operations managers, purchasing agents and building inspectors, were trained in commissioning (Cx) and retro-commissioning (Rx). Cx and Rx are baseline requirements of LEED. Commissioning (for new buildings) and retro-commissioning (for existing buildings) are systematic methods of identifying operational and maintenance improvements for buildings, and for ensuring their continued optimized performance over time.

Reasons to commission and retro-commission buildings include: bringing equipment to its optimal operational state; reducing energy and demand costs; increasing equipment life; improving indoor air quality; reducing staff time spent on complaints and emergency calls; increasing occupant satisfaction; and improving facility operation and maintenance.

Requests for qualifications and proposals and contract language for architectural and engineering firms were modified to reflect the LEED green building requirement. The city will hire a Facilities and Sustainability Manager in 2007 to provide in-house oversight and expertise to implement the green building and sustainable city program.

State of Wisconsin Green Building Executive Order and Pilot

On April 11, 2006, Governor Jim Doyle signed Executive Order 145 Relating to Conserve Wisconsin and the Creation of High Performance Green Building Standards and Energy Conservation for State Facilities and Operations.

The first state high performance green building project is the LEED Gold DNR Northeast Regional Headquarters near Green Bay. An investment of $70,000 to help make that building more environmentally sound is expected to have a payoff in energy savings of $500,000 over 20 years. Included in the design improvements were efforts to take advantage of daylight, maximize the use of recycled materials and recycle waste, and minimize the building's footprint on its surrounding environment.

S. Gruder photo

Wisconsin Governor Jim Doyle signs the green building executive order in 2006.

Resources

University of Wisconsin-Extension has many resources to help Wisconsin communities build green. These are available from local Extension agents or on the web site of the Solid & Hazardous Waste Education Center at: *www.shwec.uwm.edu*

Some SHWEC resources include:

- Building Alternatives for Public Projects: A Smart Growth Approach, a fact sheet for municipal officials on the what, why and how of green building
- Government Green Building Programs Inventory, listing U.S. municipalities with green building policies and programs and details about each
- Building Green Guide: sustainable product choices – a searchable database of green building products and services and where to get them in Wisconsin and the Midwest

Other Useful Resources:

AIA, "Writing the Green RFP: Sustainable Design Language for Consultant Requests."
www.aia.org/cote_rfps

U.S. Green Building Council State and Local Government Tool Kit
www.usgbc.org

U.S. Green Building Council
www.usgbc.org

Wisconsin Green Building Alliance
www.wgba.org

"Whole Building Design Guide" is a gateway site for up-to-date information on integrated 'whole building' design techniques and technologies. Maintained by the federal government, this site is filled with useful technical resources and links from design tools to specifications to operation and maintenance management systems.
www.wbdg.org

[18] Gruder, Sherrie, Government Green Building Programs Inventory, UW-Extension Solid & Hazardous Waste Education Center, Pub No 615.SG.0701

[19] The Costs and Financial Benefits of Green Buildings, Principal Author: Greg Kats, October 2003. Prepared in partnership with the US Green Building Council and California's Sustainable Building Task Force for 40+ California state agencies, www.cap-e.com/spotlight/index.cfm?Page=1&NewsID=25770

Purpose

Our transportation choices affect everything – public health, the environment, and our economy. Pollution produced by fossil-fuel burning vehicles is responsible for public health problems that decrease our quality of life and impose significant financial costs on individuals and the community as a whole. It also results in serious reductions in the health, productivity and enjoyment of our air, agricultural crops, forests, lakes, rivers and other waterways. Finally, as the resources that feed our fossil-fuel dependent transportation policies become scarcer and more expensive, communities are beginning to recognize that those policies simply are economically unsustainable. The many negative effects of pollution and global climate change resulting from vehicle emissions is now recognized as one of our largest challenges from the local to the global level.

1000 Friends of Wisconsin photo

Sustainable transportation options give community residents choices for work and play.

A local government's transportation and mobility policies play a major role in a community's sustainability. Those policies and decisions should address how to move residents, employees, visitors, as well as materials and goods to, from, and within the community in a more sustainable manner. The results of such policies have the potential to generate environmental, public health, and social benefits, as well as significant cost savings for communities.

Sustainable transportation policies must address several areas, including the municipal fleet, parking, commuter options and transportation alternatives. Such policies call for:

- Including transportation practices that reduce emissions of carbon dioxide (CO_2) and other greenhouse gasses;
- Practices that reduce the use and waste of fossil fuels by providing alternative modes of transportation; and
- Practices that minimize the environmental impacts, health hazards and costs of transportation.

Transportation Benefits

The benefits of sustainable transportation policies and practices include:

- conserve natural resources
- safeguard and improve public health by eliminating or reducing air pollution and ozone action days
- minimize or eliminate the environmental impacts from pollution and toxics that result from fossil fuel use
- transport workers, residents and visitors to the community efficiently and effectively
- reduce local government operating costs
- encourage local economic development through sustainability-related products and services
- encourage other organizations, businesses, and individuals in the community to adopt similar goals.

G. David photo

All generations benefit from sustainable community transportation policies.

Strategy

One strategy for putting such policies in place includes:

- Identifying current transportation policies;
- Evaluating current transportation policies throughout the local government – across departments rather than just within the streets, parking, transit and other departments traditionally associated with transportation;
- Determining how transportation policies relate to and affect other governmental/organizational policies. Work to ensure that land use, business development policies, public transit, and municipal transportation policies all operate as a system whose parts work together toward reduction of fossil fuel use;
- Outlining the rational basis for adopting a sustainable transportation policy;
- Identifying immediate and longer term policies;
- Setting short- and long-term goals; and
- Identifying measurements to track achievement toward goals.

Photos by (from left): W. Lyles, 1000 Friends of Wisconsin

Local governments can encourage their employees and residents to bicycle by providing adequate and convenient facilities.

A sustainable transportation system usually requires a mix of several available options – pedestrian, bicycle and public transit options.

An increasing number of local government transit authorities are exploring renewable fuels for their busses.

Actions

Municipal Fleet Vehicles

- Purchase or lease fleet vehicles that are the most fuel efficient in their class and/or powered by renewable fuel sources (this includes not only passenger vehicles, but garbage trucks and other community service vehicles). This can include a vehicle fleet fueled by compressed natural gas, methane captured from landfills, ethanol (E85), electric and ultra-low sulfur diesel;
- Convert existing diesel vehicles to biodiesel (e.g., school buses and trucks);
- Keep vehicles well maintained to ensure efficient performance (e.g., proper tire pressure, regular tuning, etc.);
- Provide incentives for employees to operate vehicles efficiently;
- Switch to refined motor oil for fleet vehicles, and look for products that meet eco-label standards;
- Train employees and community members in eco-friendly driving techniques that conserve fuels, release fewer emissions into the atmosphere and prolong vehicle life. [Examples: In Luleå, Sweden, driving students drive a specified route and energy consumption is measured, then it's done again after eco-driving instruction on topics such as tire inflation, fuel conserving acceleration and braking, and optimum fuel conservation speeds. In Övertorneå, Sweden, eco-driving is part of the high school driving class curriculum. The town also has courses for trucking industry and business employees in order to reduce emissions. They estimate that they have trained 70% of the drivers in Övertorneå to be more aware of how their driving practices affect fuel use and equipment costs];
- Consider creating a "bicycle fleet" for employees to use for local work-related trips in order to improve employee health, air quality and reduce fleet vehicle costs.

Parking

- Change parking policies at the work site to make it easier for employees to switch to transportation alternatives;
- Provide parking priority and reduced-price or free parking to people who ride share or drive super-low emitting hybrids or electric vehicles;
- Support those who walk, cycle or bus to work through incentives and alternatives to parking benefits.

Commuter Options and Transportation Alternatives

- Evaluate which transportation options are currently subsidized by the community and whether those subsidies promote sustainable transportation choices;
- Improve transit service and equipment;

- Work with neighboring local governments to coordinate regional public transit opportunities including mass transit, shuttle buses, carpooling and vanpooling, bicycle and pedestrian infrastructure;
- Promote Transit Oriented Development (TOD) that minimizes the need to drive to work, school, errands, recreation and other typical destinations;
- Provide and encourage ride sharing programs;
- Provide hybrid car-share cars or become a "member" of an existing car share program so employees can take advantage of community car sharing;
- Make it more convenient for people who choose to cycle, walk or run to work by providing showers, lockers, and secure bicycle parking at work sites, and by designing safe, connected streets and dedicated bicycle trails and lanes with adequate lighting and bike racks that encourage pedestrian and bicycle use and discourage high speed traffic;
- Allow for variable work hours to help connect potential ride sharers and eliminate car trips;
- Allow telecommuting.

W. Lyles photo

Miscellaneous

- Work with private businesses to reduce truck trips by increasing truck load capacity, coordinating trips with other distributors, creating flexible pick-up/drop-off times, utilizing empty trucks for "green returns" (return of recyclable materials);
- Maintain existing local stores and markets in residential neighborhoods and develop new ones so that customers can shift from driving to biking or walking for short trips.

Case Studies

Portland , Oregon Transportation Actions Reduce Greenhouse Gases

In 1993 Portland became the first U.S. city to adopt a strategy to reduce emissions of carbon dioxide (CO_2). In 2001 Multnomah County joined the effort to create the *Local Action Plan on Global Warming* with a goal of reducing carbon dioxide emissions to 10% below 1990 levels by 2010.

On a per capita basis, Portland and Multnomah County CO_2 emissions have fallen 13% since 1993. This is contrary to the national trend, where per capita CO_2 emissions in the U.S. have increased slightly over the same period, with total greenhouse gas emissions up 13%. The reduction is due to multiple factors, including the following transportation actions:

- The addition of two major light rail lines and the Portland Streetcar and 75% growth in public transit use since 1990.
- All diesel vehicles and equipment that use the city's fueling stations currently are fueled by a 20% biodiesel blend (20% biodiesel/80% diesel, also known as B20). Each year the city uses about 600,000 gallons of B20.
- In early 2002, the city took delivery of 30 Toyota Priuses, hybrid gasoline-electric vehicles that get 50 mpg.
- In 2001 the city finished replacing incandescent traffic signals with LED bulbs, saving 3% of total city CO_2 emissions and cutting the city's electricity bill by $265,000 per year.

Portland points out that "while the actions of one city will have only a small impact on global CO_2 emissions, many cities together can achieve meaningful reductions. Since the adoption of the 1993 plan, more than 400 municipal governments worldwide have followed Portland's lead and adopted "climate change mitigation plans" that include transportation actions.

"Creating and Implementing a Trip Reduction Program at the Work Place," Whistler, British Columbia, Canada: "Go Green" Program

The GO GREEN Choices Program recommends an 11-step plan for reducing trips to work. The detailed plan begins by discussing the reasons for trip reduction, and ends by providing tools to implement and maintain a program to reduce the number of cars arriving at the workplace every day.

The eleven steps of the program are: 1) Making the move – Securing management approval. 2) Who do you work for? – Creating an employer profile. 3) Where do you work? – Analyzing your work site. 4) Who works here? – Conducting an employee transportation survey. 5) Room to move – Setting your trip reduction targets. 6) What's in it for me? – Proposing incentives. 7) The price of a program – Creating a budget. 8) The go ahead – Presenting your plan. 9) On the road – Promoting your plan. 10) Green means go – Implementation of the plan. 11) Staying on the right track – On-going evaluation. More details can be found at: *www.gogreen.com/choices/getstarted/1.html*

Resources

1000 Friends of Wisconsin
www.1kfriends.org

City of Portland, Oregon's Transportation Sustainability Program
www.portlandonline.com/transportation/index.cfm?c=35707

Whistler Canada's Comprehensive Sustainability Plan – Transportation
www.whistler.ca/files/PDF/Admin/Whistler_2020/August_Final_Drafts/Transportation_Draft_Strategy_Final.pdf

Community Car Sharing

Car Sharing Network
www.carsharing.net/

Madison's Community Car program:
www.communitycar.com/

Using bikes to replace other vehicles in the workplace

"Bicycles in the Workplace for a Healthy Business"
www.breezerbikes.com/docs/BreezerFleetBrochure.PDF

For examples of communities around the world using bikes for employees, see "Post, Parks and Petite Bourgeoisie On Your Bikes" on the International Bicycle Fund website "Workbikes" section
www.ibike.org/economics/workbike.htm

"From the Margins to the Mainstream: A Guide to Transportation Opportunities in your Community"
Surface Transportation Policy Project, a guide to federal law and funding for local government transportation programs
www.transact.org/PDFs/margins2006/STPP_guidebook_margins.pdf

Toward Sustainable Transportation Indicators for California, MTI REPORT 02-05, August 2003
http://transweb.sjsu.edu/mtiportal/research/publications/documents/02-05/Lee_4Mar04.htm

Seattle, Washington: "Way to Go" Program

Way to Go, Seattle is the City of Seattle's umbrella program for a variety of initiatives intended to improve livability by reducing automobile usage for non-work trips and increasing the use of busing, biking, walking, trip consolidation and carpooling instead. For more information see:
www.cityofseattle.net/waytogo/

Way To Go Seattle – Seattle Transportation Program
www.cityofseattle.net/waytogo/

Way to Go Seattle – Car Cost Worksheet
www.cityofseattle.net/waytogo/carcostworksheet.htm

Way To Go Seattle – Commute Trip Reduction program
www.seattle.gov/transportation/commute.htm

Way To Go Seattle – One Less Car Challenge
www.cityofseattle.net/waytogo/onelesscar.htm

Purpose

Procurement Benefits

Community and environmental benefits of green purchasing:

- Conserve natural resources
- Minimize environmental impacts such as pollution and use of water and energy
- Eliminate or reduce toxics that create hazards to workers and the community
- Support strong recycling markets
- Reduce materials that are landfilled
- Increase the use and availability of products that protect the environment
- Identify environmentally preferable products, services and distribution systems
- Create a model for successfully purchasing environmentally preferable products that encourages other purchasers in your the community to adopt similar goals
- Create incentives for existing and new sustainable local business

Environmentally preferable purchasing (EPP) or green purchasing is the purchase of "products and services [that] have a lesser or reduced effect on human health and the environment when compared to other products and services that serve the same purpose." EPP, however, not only protects the environment; it also protects human health, saves money, and improves the overall quality of government purchases. EPP was formally adopted by the Federal Government in 1993 and expanded in 1998 Executive Orders though part of the Resource Conservation and Recovery Act (RCRA).

Green purchasing considerations and environmental approaches reduce impacts on: air, water and land, greenhouse gas emissions, resource availability, biodiversity, energy, toxics generation, disposal and health impacts, waste generation, packaging and transport energy.

Rather than addressing environmental problems on a single-medium basis, such as energy efficiency or recycled content, environmentally preferable purchasing is targeted at minimizing environmental impacts across all environmental media by using a lifecycle assessment approach. The benefits of environmentally preferable purchasing to local government include improved ability to meet existing environmental goals, improved community and worker safety and health, reduced liabilities, and reduced disposal costs.

Governmental procurement policies can reflect the principles and concepts of sustainability. Indeed, governments can model the way for businesses and households. Such policies call for:

- Practices that reduce waste by increasing product efficiency and effectiveness;
- The purchase of products that eliminate or minimize environmental impacts, toxics, pollution, and hazards to workers and the community;
- The purchase of products that are reused or refurbished, include recycled content, are durable and long-lasting, conserve energy (ENERGY STAR appliances and electronics) and water, use agricultural fibers and residues, reduce greenhouse gas emissions, use unbleached or chlorine-free manufacturing processes, are free of lead, mercury, PVC and other known toxics, use wood from sustainably managed forests, are regional or local.

Strategy

A strategy for putting green purchasing in place might include:

- Identifying current procurement policies;
- Discussing and evaluating current policy(ies) with Department Heads;
- Explaining the rational basis for adopting an Environmentally Preferable Purchasing Policy;
- Adopting an Environmentally Preferable Purchasing Policy and Implementation Guidance for the policy. See references below for model policies and implementation guides;
- Using a "best value" approach for most purchases as opposed to a "low bid wins" purchasing approach. With best value purchasing, purchasers can identify and consider a wider variety of factors. A purchasing evaluation score sheet, for example, might base 40% of the total score on price, 30% on performance, and the remaining 30% on environmental or other preferential purchasing considerations (e.g., local supplier, or small or woman- or minority-owned businesses).

S. Gruder photo

Herman Miller green office furniture.

Actions

- Encourage purchasers to examine environmental considerations along with traditional factors such as product safety, price, performance, and availability when making purchasing decisions. Each of these factors, including environmental performance, provides important

information about a product's or service's overall value and quality. As a result, environmental considerations should be a regular part of the normal purchasing process.

- Compare environmental attributes such as recycled content, energy efficiency, or reduced toxicity of competing products. A product's environmental attributes can serve as a measure of its overall environmental impacts.

Case Studies

Environmentally Preferable or Green Purchasing Policy success stories include.[20]

Seattle, Washington's Copernicus Project produced direct cost savings of $2.3 million in 2001 and indirect savings of $600,000. In 2002, the direct and indirect cost savings were $3.14 million and $400,000, respectively.

Starbucks, by switching to thinner trash bags, has saved $500,000 annually and reduced the company's annual use of plastic by 750,000 pounds – without impacting performance.

Seattle Swedish Medical Center's supply expenses accounted for 23% of annual net revenues. Today, with the Supply Chain Management system in place, that amount has been reduced to 17.2% – a difference of $16 million.

The Aberdeen Proving Ground, an EPA Green Lights partner, is replacing standard PCB-containing fluorescent light ballasts with energy-efficient, PCB-free, electronic ballasts as part of its energy efficiency efforts. The project will save the military installation $1.2 million per year .

King County, Washington saved $550,000 in 2002 by purchasing environmentally preferable products. In 2003, the County saved $580,000.

Herman Miller, Inc. without its waste reduction efforts, would be sending eighty million pounds of waste to the landfill each year. Instead, it is sending six million pounds, avoiding $1 million in disposal costs.

Resources

National Association of Counties. Local Government Environmental Purchasing Starter Kit: Introduction, 1999. Provides tips on how to start an environmental purchasing program. 2.4 MB PDF available at: *www.newdream.org/procure/start/overview.pdf*

The above introduction is part of a larger environmental purchasing starter kit which includes a sample purchasing resolution, baseline survey, and press release. For more information on the starter kit, visit: *www.newdream.org/procure/start/naco.php*

Scot Case. "Establishing Green Purchasing Priorities." Government Procurement, April 2004, 5 pages. Describes the process government purchasers are using to prioritize and integrate environmentally preferable products into their purchasing efforts. Available at: *www.newdream.org/procure/Establishing_Green_Purch_Priorities.pdf*

Scot Case. "Finding the Best Green Value: Strategies Balance Cost, Human Health, and Environmental Concerns." Government Procurement, February 2005. Suggests strategies for balancing human health and environmental concerns with cost concerns. Includes a discussion of calculating life cycle costs, applying price preferences, and adopting best value purchasing. Available at: *www.newdream.org/procure/Green_Value.pdf*

Liddel, Beth. Pacific NW Pollution Prevention Resource Center, "Environmentally Preferable Purchasing (EPP) Programs and Strategies: Integrating Environmental and Social Factors into Procurement Practices," October 31, 2003 *www.p2pays.org/ref/24/23958.pdf*

[20] Liddel, Beth. Pacific NW Pollution Prevention Resource Center, "Environmentally Preferable Purchasing (EPP) Programs and Strategies: Integrating Environmental and Social Factors into Procurement Practices," October 31, 2003 www.p2pays.org/ref/24/23958.pdf

Purpose

Local governments are called upon to exercise competent and responsible stewardship in how they manage their financial resources. In order to function effectively and to carry out their financial responsibilities, they depend on a reasonable return on investments and are required to operate in a fiscally sound, responsible and accountable manner.

"Millions of people and thousands of institutions want their investments to express social values"

– Paul Hawken (see Resources section)

Socially responsible investing is when you take your beliefs and values and apply them to how you invest your money.

Socially responsible investment incorporates social, environmental, and corporate governance concerns into investment decisions to promote corporate responsibility and sustainability worldwide.

When a local government adopts operational principles and/or mandates, such as those related to sustainability, the combination of these considerations with fiscal responsibilities suggests the need for a clear and comprehensive set of policies to guide local government investments and other related activities. A description for such an approach is socially responsible investment. Investing with a focus on sustainability is a component of, but narrower than, socially responsible investment.

The socially responsible investment (SRI) industry in the United States is a relatively recent phenomenon. The first SRI mutual fund—Pax World Fund—was created in 1971. The SRI movement gained a serious foothold in the financial industry in the 1980s. It now represents over $2 trillion in assets in the United States. Between 1995 and 2005, the number of SRI mutual funds grew from 55 to 200.

Socially responsible investors screen companies and mutual funds for those that coincide or conflict with their beliefs. As of 2005, two-thirds of all SRI funds had five or more screens in place. Across all SRI mutual funds, over 300 screening criteria are employed today versus only five 20 years ago. Since not all investors are in agreement, this points to the importance of having an agreed upon set of principles at the community level. A local government's adopted sustainability framework can help provide these principles.

In the past, an argument against socially responsible investing was that it would not be profitable. A range of studies have since shown that socially-conscious mutual funds are able to match or beat the overall performance of the stock market, using the S&P 500 (a broad stock market index of 500 companies) as an indicator of overall market performance. Academic and market studies have repeatedly shown that screened SRI funds earn financial returns comparable to those of their unscreened counterparts.

Others look at financial performance in a different light. "We believe that striving to attain the highest rate of financial return is a direct cause of social injustice and environmental degradation, as it consistently leads to externalization of costs on the environment, the future, workers, and other peoples"[21] (Hawken and the Natural Capital Institute 2004). They advocate changes in screening criteria, a moderation of investor expectations, and more transparency and disclosure of SRI fund portfolios.

If a local government decides to pursue a socially responsible investment strategy, it will need to figure out what its environmental and social priorities are. A key component to the creation of a sustainable community is the adoption of a community-wide policy or mission statement. The process necessary for such a large-scale plan brings stakeholders to the table and encourages open discussion and creative problem solving.

Strategy

Socially responsible investment includes three fundamental strategies – screening, shareholder advocacy (or corporate engagement), and community investing. A local government can pursue all three strategies, just one of them, or any combination that it decides upon.

Screening

The gist of screening local government investments is summed up with the maxim: "Invest your principal with your principles." That guideline can be applied to both stocks and bonds, and takes the form of positive or negative screens. Intuitively, screening seems like the best way for an investor to express disapproval or support for a public company. The criteria for inclusive, proactive positive screens can range over a spectrum of concerns. Negative or avoidance screening excludes companies that are directly or partially involved in certain industries, practices, or services. Virtually any screen can be used positively or negatively.

Examples of issues underlying screens include: environment, human rights, labor, abortion, contraception, animal rights, tobacco, alcohol, gambling, defense, pornography, biotechnology, community investment/support, corporate governance, business practices, employment equality, employment diversity, non-marital partner benefits, workplace conditions, foreign operations, nuclear power, renewable energy, beneficial products and services, and sustainability. Screens may also extend to the company's suppliers or customers.

Shareholder Advocacy

Shareholder advocacy efforts include engaging in dialogue with companies and submitting and voting on shareholder resolutions. Action is focused on positively influencing corporate behavior. Socially conscious investors often work cooperatively to steer management on a course that they believe will improve financial performance over time and enhance the well-being of all of the company's stakeholders – customers, employees, vendors, communities and the natural environment, as well as stockholders.

Community Investing

Community investing provides capital to people in low-income, at-risk communities who have difficulty accessing it through conventional channels. Many social investors earmark a percentage of their investments to community development financial institutions (CDFIs) that work to alleviate poverty, create jobs, and provide affordable housing and small business development financing in disadvantaged communities.

Community investing is the fastest-growing component of SRI, with total assets more than tripling from $5.4 billion in 1999 to more than $18 billion in 2005. This growth in assets has been accompanied by an increase in the number of options that are readily available to both individual and institutional investors. There were eleven certified CDFIs in Wisconsin as of April 2006.

Actions

Basic steps may include the following:

- Decide if the local government wants to model sustainability through its own actions and policies;
- Decide if the local government wants to have an investment approach that reflects its sustainability and, perhaps, other environmental and social principles;
- Do research on the basics of investing, the current investment strategies of the local government, and the basics of socially responsible investing;

- Agree upon a set of principles, at the community level, that will be used as the basis of the local government's investment decisions;
- Set the environmental and social priorities that will determine the type of "screened" investment portfolio the local government wants to have;
- Positive screening identifies those types of companies and funds that the local government wants to support and invest in;
- Negative screening identifies those types of companies and funds that the local government does not want to support or invest in;
- Determine how strictly to enforce or follow positive and negative screening choices;
- Consider a take-no-prisoners attitude where it screens no matter how small the transgression;
- Consider how far along the supply chain to hold companies accountable;
- Determine whether to invest in individual companies or in mutual funds (where the fund manager does the research on the financial and social sides, but where the local government may not agree with every company chosen);
- Determine the local government's financial goals
    - Assess the level of risk it is comfortable with
    - Assess how important rates of return are to its portfolio
    - Determine whether the local government is focusing on short-term, longer-term, or a mixed portfolio of investments;
- Decide whether the local government will manage its investment or if it will have others do it (such as a financial manager or a mutual fund manager).

There are many socially responsible mutual funds available. The choice does not have to be overwhelming. Here are three steps to follow:

1. Get a list of funds by doing an Internet search for "socially responsible investing" or "socially responsible mutual funds." There are also web sites listed in the resources section below, some of which have complete listings of socially responsible mutual funds. For example, the SRI Mutual Fund Chart at www.socialinvest.org provides information on more than 100 funds – including account minimums, screens, and performance information.
2. Check out each fund's web site before requesting a "prospectus" from them. A prospectus provides information on the fund manager's philosophy on screening and investing, the fund's financial performance, and an application form. This way a local government can quickly determine whether the fund's environmental and social priorities are compatible with its own. Typically, each web site will also provide financial information about the fund.
3. After locating a preferred mutual fund, the local government can order a prospectus online or call the mutual fund's 1-800 number.

Up to this point, the emphasis in this section has been primarily on the screening strategy. A local government may decide that it wants to expand its "strategy portfolio" and pursue shareholder advocacy and community investing, as well.

Companies are owned by the people and institutions, such as communities and local governments, who invest in them. Shareholders are increasingly using this leverage to persuade companies to adopt practices that are conscientious and socially and environmentally responsible. For example, in 2005, SRI shareholders filed 348 resolutions on social and environmental issues ranging from climate change to global labor standards to political contributions. Shareholders are becoming increasingly

successful with these strategies. Given the relative importance of institutional investors, this provides another means for communities to influence corporate behavior to reflect their agreed-upon social and environmental principles.

Community investing helps to fill the need for financing in low-income communities that is not being met by conventional financial institutions and services. Through community investing, local governments can invest directly in community-based financial institutions that use their money to provide resources and opportunities for lower-income people and social enterprises. Community investment institutions provide financing for affordable housing, small businesses and micro-enterprises, environmental projects, and vital community services like education and child care.

Communities can also invest in "high-impact" community investment funds like community development loan funds, micro-enterprise funds, pooled funds, and community development venture capital. These are generally long-term (one to five years) investments that offer market or below-market returns that are not insured. Another approach is to invest in SRI mutual funds that have a community investing component.

Case Studies

The Green Wave Initiative in California

This initiative was launched in February 2004 with California's two major public pension funds dedicating $1.15 billion to investments that clean up the environment and create jobs while bolstering the funds' financial returns. The pension funds are being invested in the stocks of environmentally responsible companies and in funding that will grow new industries to develop clean energy and environmental technologies. The funds are also pushing companies to improve their environmental practices and curb global warming; and they are implementing landmark energy conservation goals for their massive real estate holdings (Source: California Political Desk, April 21, 2006).

Wisconsin Women's Business Initiative Corporation (WWBIC)

The Wisconsin Women's Business Initiative Corporation (www.wwbic.com) is an economic development corporation providing quality business education, technical assistance and access to capital for entrepreneurs. Established in 1989, WWBIC consults, educates and mentors owners of small and micro businesses throughout Wisconsin. It concentrates its efforts with women, people of color, and those with lower incomes. WWBIC was one of the first CDFIs in Wisconsin and the first statewide certified CDFI in the U.S., one of the first Small Business Administration (SBA) Women's Business Centers, and one of the first SBA Microlenders.

American Indian Chamber of Commerce of Wisconsin

A recent entry into the Native CDFI world is the American Indian Chamber of Commerce of Wisconsin (www.aiccw.org). The chamber started the First American Capital Corporation, a certified CDFI that received funding from the CDFI Fund, leveraged it for additional funding, and loaned it to Indian businesses across Wisconsin. "We're covering the whole state of Wisconsin and every Indian in the state," said Executive Director Craig Anderson, so funding is stretched thin. Still, he said, they can do a lot with little.

Resources

The Local Government Investment Pool offered by the State of Wisconsin is:
www.swib.state.wi.us/lgip.asp

The policies of the State Investment Board and contacts are available on the site as well.

Socially responsible investing resources on the web include:

Changemakers:
www.changemakers.org

Ethical Investment Mutual Funds:
www.rawdc.org/invest/funds.html

Good Money:
www.goodmoney.com

Ethical Investment Research Service:
www.eiris.org

Green Century:
www.greencenturyfunds.com

GreenMoney Journal:
www.greenmoney.com

Interfaith Center on Corporate Responsibility:
www.iccr.org

Natural Investing:
www.naturalinvesting.com

Open Directory – Business Investing Socially Responsible:
http://dmoz.org/business/investing/socially_responsible

RSF:
www.rsfsocialfinance.org

Shared Interest:
www.sharedinterest.org

Social Investment Forum:
www.socialinvest.org

Social Investment Organization:
www.socialinvestment.ca

SocialFunds.com:
www.SocialFunds.com

Socially Responsible.org:
www.sociallyresponsible.org/investing.htm

SRI News.com:
www.srinews.com

SustainableBusiness.com:
www.sustainablebusiness.com

Vision Capital Management:
www.visioncapitalinvestment.com

The Natural Capital Institute released a report in October 2004 that addresses financial management companies offering mutual funds that screen their portfolios against non-financial criteria, which is the socially responsible or ethical investing community. "It examines current portfolio practices, reveals how SRI funds are actually allocated, shows how the industry misleads investors, and recommends how the industry can reform itself in order to respond to investors who want to invest with a conscience and purpose (Hawken 2004)."
www.naturalcapital.org

The above report can be downloaded in PDF format (pages 31-33 provide a wide range of internet-based resources on mutual funds, screening criteria, and indices) by going to this link (then click on "Download Report" under the Socially Responsible Investing Project):
www.naturalcapital.org/Projects.html

The Community Investing Center has detailed social and financial performance information and the largest database of investment opportunities in the area of community investment.
www.communityinvest.org

The Community Development Financial Institutions Fund was created for the purpose of promoting economic revitalization and community development through investment in and assistance to CDFIs. The CDFI Fund was established by the Reigle Community Development and Regulatory Improvement Act of 1994, as a bipartisan initiative. It is part of the U.S. Department of the Treasury.
www.cdfifund.gov

The Coalition of Community Development Financial Institutions was formed in 1992 as an ad-hoc policy development and advocacy initiative. It is the lead national organization in the United States promoting the work of CDFIs. The Coalition represents CDFIs working in all 50 states and the District of Columbia. This national network of CDFIs includes community development loan funds, community development banks, community development credit unions, micro-enterprise lenders, community development corporations and community development venture capital funds. The CDFI web site includes extensive information and state-by-state profiles.
www.cdfi.org

United States Conference of Catholic Bishops. Socially Responsible Investment Guidelines. Principles for USCCB Investments. November 12, 2003. Washington, DC: Office of Finance/Accounting Services, United States Conference of Catholic Bishops.

Socially Responsible Investing: How the SRI industry has failed to respond to people who want to invest with conscience and what can be done to change it. Natural Capital Institute, Sausalito, CA. Hawken, Paul, October 2004.

SRI in the United States. Schueth, Steven J.
www.firstaffirmative.com/news/sriArticle.html

Want to Build a More Sustainable World? Start with Socially Responsible Investing. Conway, Justin, and Larsen, Todd. A Co-op America Real Money feature in Utne Magazine, Nov./Dec. 2005.

[21] The Natural Capital Institute report, October 2004. Click on "Download Report" under the Socially Responsible Investing Project at www.naturalcapital.org/Projects.html

Purpose

Human resources refers to the individuals in an organization, whether public or private, and more specifically to the organization's unit that deals with hiring, firing, training, and other personnel issues, such as benefits. The way in which an organization treats its employees is critical regardless of whether an organization is using a sustainability perspective. The difference in an organization using a sustainability perspective is the degree to which employees participate in decision making, and the use of a sustainability framework in that decision making. In addition, creating healthy work environments can affect a range of local government goals related to sustainability, such as reducing energy use. More specifically, employees need to have a living wage, a healthy work environment, understand how and where they fit into the organization, and appropriate and regular training. By creating more satisfied and loyal employees, local governments also will create stronger, healthier communities and support their local economy.

"In the context of greening operations, the objectives of human resources management are to ensure the health and safety of employees; to equip employees to meet the requirements of all applicable regulations, guidelines and policies; and to encourage employees to incorporate environmental considerations into their daily activities"

- Public Works and Government Services Canada

Strategy

A human resource office must establish a strategy to accomplish its sustainability purpose. Below are some strategies to consider as the local government begins to change the way it interacts with its employees. The strategies below offer a way to begin to think about human resources in a sustainable way.

- Adopt human resource management practices that foster innovative working arrangements that support sustainability objectives. For example, allowing employees to telecommute (work from home) can improve a local government's transportation sustainability. Perhaps the amount of parking can be reduced. By reducing the amount and costs of parking and/or allowing employees to work at home the local government can promote and perhaps even subsidize the use of alternative transportation modes, and/or less driving to work, which means less pollutants in the air, less fuel used, and potentially healthier employees.
- Pursue actions that affect and engage all local government employees. For example, give all employees the opportunity to take a course in sustainability, such as The Natural Step framework.
- Infuse environmental awareness into all training programs, particularly orientation.

Actions

A local government can take many actions to achieve sustainability through its human resources department. Several actions are listed below. A local government should choose actions that fit its strategy and goals.[22]

- Hire and promote people with diverse backgrounds, experiences and perspectives;
- Educate employees about The Natural Step approach to sustainability, or another sustainability framework that the local government is using;
- Compensate employees fairly. Ensure fair compensation internally (between staff that hold similar positions) and externally (between your employees and the market value of those positions);
- Pay employees a 'livable' wage for the community. Paying staff a livable wage will increase loyalty, reduce staff turnover, improve customer service, and ultimately strengthen the community by allowing employees to live and participate in the community where they

work and contribute to a healthy local economy;

- Offer medical and dental benefits to employees;
- Consider prorated health care benefits for part-time employees;
- Empower employees to think creatively, generate ideas, and make decisions. Encourage them to do so regardless of whether success is guaranteed. Employees will feel more ownership if they can contribute innovations and ideas;
- Try to avoid layoffs. Develop a list of other cost-cutting options that could be implemented before layoffs. Include staff in identifying options;
- Consider conducting a confidential survey annually to ensure that employee needs are being met;
- Provide time off or flexible work arrangements for employees who volunteer in the community;
- Promote and support career development. This can be done through activities/programs such as goal setting, mapping out a career plan, establishing a mentoring program, and supporting/rewarding skills development;
- Develop an open, trusting environment where issues and ideas can be comfortably raised. Employees, customers, suppliers and other stakeholders will be more likely to share issues and ideas if they feel comfortable doing so. Their ideas may bring new innovations to the local government and increased awareness of surfacing issues may enable the local government to respond to them before they become unmanageable;
- Encourage school visits to the workplace and allow employees to become student mentors;

It is useful to have a target for accomplishing local government actions. Human resources will need to establish a timeline for achieving actions. For example, "By March 2007, establish environmental training plans and train 10% of the workforce."

In addition, the local government will need to measure how it is doing. Local governments and businesses have commonly accepted the use of performance measures for this task. Sample performance measures include:

- Number of environmental training courses developed
- Number of employees receiving environmental training
- Number of environmental regulatory infractions
- Number of diversity candidates hired

Case Studies

Below are two examples of organizations that have "greened" their human resources department or operations.

Interface, Inc.

Interface understands the importance of sustainability education across the globe. The company is working internally to educate all Interface employees, sponsoring non-sales events to educate their customers and suppliers, and reaching out to many of the communities in which they operate. Interface Europe in Northern Ireland established a challenge program for local high schools to submit environmental projects. Interface Flooring Systems in Canada is working with local civic leaders to promote The Natural Step in local government, industries, and institutions through

their 'Quinte Initiative.' Prince Street is using their facility as a teaching tool to educate 8th grade students on career opportunities relating to manufacturing and the environment. Interface Flooring Systems participated in an initiative to raise school children's awareness of pollution in the local Chattahoochee River."[23]

The University of Houston's Health Science Center

The Center "is dedicated to educating its community and offering itself as a model to other institutions working toward sustainability. Internally, the school is attracting interest from graduate students and providing sustainability education to the University's Historically Underutilized Businesses Program (HUB). HUB's mission is to identify small, minority, and woman-owned businesses, and to encourage them to partner and contract with the University. The Health Science Center (HSC) is itself supporting local vendors through contracts for food service, construction materials, and wood flooring. Every 60 days the HSC provides free workshops on The Natural Step and sustainability for UTH students as well as local businesses, schools, and organizations. In addition, the University's award winning film, featuring its sustainable building project, has been translated into Spanish in order to reach audiences that might not otherwise have access to the information."[24]

Resources

The Natural Step for Communities: How Cities and Towns Can Change to Sustainable Practices, James, Sarah and Torbjörn Lahti, 2004, New Society Publishers, British Columbia, Canada (pages 184-191). Includes a training example from the City of Eksjö, Sweden.

For more information on "living wage," the Living Wage Campaign website and available guide can help local governments with defining a living wage in their area and other tips about establishing a living wage within a community.
www.livingwagecampaign.org

Sustainable Development in Government Operations PWSC (Public Works and Government Services Canada).
www.pwgsc.gc.ca/realproperty/text/pubs_sd_gov/goals-e.html
January 3, 2006.

A deeper look at System Condition Four, Rosenblum, Jill. Spring 2000. The Natural Step Newsletter, 1(11).
www.naturalstep.org/learn/docs/articles/sc_four.pdf
January 31, 2006.

Whistler – It's Our Nature.
www.whistleritsournature.ca/toolkits/smallbusiness/smallbizframe.html
January 3, 2006

[22] Adapted from Whistler, It's Our Nature, January 3, 2006 www.whistleritsournature.ca/toolkits/smallbusiness/smallbizframe.html

[23] A deeper look at System Condition Four, Rosenblum, Jill. Spring 2000. The Natural Step Newsletter, 1(11), January 31, 2006 www.naturalstep.org/learn/docs/articles/sc_four.pdf

[24] ibid

Appendix 1

Benefits of Using the Natural Step Sustainability Framework to Guide Implementation of Madison's Sustainable City Goals*

Communities are where we live and work, and therefore where the impacts of our collective decisions that affect our land, air and water become most obvious. Madison is charged with planning for our development and managing our systems of waste, water, energy, and transportation, among others, all of which are fundamental to long-term sustainability.

In addition, Madison interacts with many local suppliers and stakeholders. By demonstrating leadership and commitment to sustainability in its own operations, the city can act as a role model for individuals and organizations in the community. In order to do this effectively, Madison will require the engagement of staff at all levels of city government and will need to align individuals and departments with a variety of interests, functions, responsibilities, and time and financial pressures.

The Natural Step Framework will help Madison overcome these challenges by:

- Facilitating the development of a shared understanding of and language for sustainability. A common understanding that is based on science and a system-wide approach will help to align the actions of different city departments and agencies, while still allowing them to work independently.
- Structuring a process for working together to identify, organize, and prioritize actions and investments for sustainable city operations.
- Introducing principles of sustainability that can be used to connect the city's long-term sustainability objectives – as described in the City-Council adopted Blueprint for a Green Capital City – with day-to-day actions and decisions.

The Process

Municipalities around the world have used The Natural Step ("TNS") sustainability framework to guide their decision making. While each community has different needs and approaches, these municipalities have all used some variation of the following steps:

1) An initial group of city staff and senior managers is introduced to TNS framework. By the end of this introduction, staff should be able to describe TNS and explain why it is relevant to their municipal organization. A one-day introductory workshop is usually the most effective way to achieve this.

2) Next, a core group of city staff members should be trained to be TNS trainers. The goal is to enhance the capacity of this core group so that they can present the TNS framework, facilitate dialogue, identify opportunities, and be internal resource people for as the city implements its sustainability goals.

3) The next critical step is to understand the current sustainability performance of the city as a whole or of particular departments. The Natural Step provides a methodology for performing this assessment using a full sustainability perspective. How is Madison performing in terms of sustainability? Where are high leverage areas for improvement? The output of this process is a Sustainability Analysis document.

4) Using the Sustainability Analysis as a baseline, the next step is to undertake initiatives to improve the overall sustainability performance of the municipality. This may involve coordinating existing programs and activities and/or developing new ones, with the overall goal of incorporating a sustainability perspective into city management systems, policies and plans.

Note that the Sustainable Design and Energy Task Force has already performed some of the work outlined in items 3 and 4 above through its development of the Blueprint document adopted by the City Council.

Benefits

Some of the benefits Madison might expect from using the TNS Framework to implement its sustainable city goals include:

- Alignment of municipal departments and staff toward a common vision of sustainability
- Clarity in assessing and organizing actions and programs for sustainable municipal operations
- Enhanced policies and programs incorporating a sustainability perspective (e.g. procurement policies, environmental management systems)
- Enhanced reputation as a proactive contributor to a more sustainable community

*Adapted by Lisa MacKinnon and Sherrie Gruder from "The Natural Step Canada Services for Municipal Operations" Briefing Note.

Appendix 2

The Sustainable Chequamegon Initiative: A Grass Roots Movement

A new spirit took root among hundreds of Chequamegon area residents in the spring of 2005 following an international conference in Ashland sponsored by the Alliance for Sustainability, entitled "Sustainable Sweden: the Eco-municipality Movement." The conference was the outcome of many slideshow presentations to local governments and other organizations by an Ashland city councilor who had visited Sweden the preceding summer. She visited several of Sweden's seventy "eco-municipalities" that are known throughout the world for having moved toward a sustainable society over the past twenty years. These municipalities all have adopted The Natural Step (TNS) (see Appendix A), a scientific framework based on sustainable principles to bring about systematic changes in business, government, education, energy production, waste disposal, transportation, and agriculture. After hearing these presentations, thirteen local entities, including three city councils, two tribal councils, and four educational institutions, donated at least $1,000 each to co-sponsor the "Sustainable Sweden" conference that was held in February 2005 at the AmericInn in Ashland.

This conference was a *turning point* for the Chequamegon Bay region. Over 200 participants listened to Torbjörn Lahti, father of the eco-municipality movement in Sweden, and Sarah James, co-author of The Natural Step for Communities, present their experiences and stories of many communities in Sweden that have embraced and moved toward sustainability. Attendance included elected officials, mayors, city and tribal employees, educators, business owners, builders, planners, and interested citizens. One feature of the conference was to have participants brainstorm, discuss, and prioritize potential local community action projects that would be based on sustainable development principles. In the end, over four dozen projects were identified. Several organizational meetings following the conference moved many of these initiatives forward.

A delegation of local community representatives from Sweden visits the Chequamegon Bay region in 2005 (from left): Lars Thunberg, Tammy Persson, Lena Bengtén and Torbjörn Lahti.

In June 2005, a delegation of Swedish municipality leaders came to present their success stories to 450 area residents in the Big Top Chautauqua tent. They received a standing ovation for their ideas and for the work local citizens had begun. In July 2005, the Washburn City Council received national recognition for passing an eco-municipality resolution. In early fall, the City Council of Ashland followed suit. **Together, Washburn and Ashland became the first two communities in the United States to pass eco-municipality resolutions.**[25]

In October 2005, ninety people joined a first round of Study Circles. These nine discussion groups, of eight to twelve citizens each, met one night a week for two months in homes, businesses, and libraries throughout the Chequamegon Bay region to discuss the book The Natural Step for Communities by Torbjörn Lahti and Sarah James and how the sustainable development ideas described in the book might be incorporated in these communities.

In January 2006, a public celebration of outcomes from these Study Circles led to **a second round of Study Circles** and the formation of three organizational committees, including the Planning and Organization Committee that spent two months developing a strategic plan for 2011.

Other significant events that took place during the past year included:

1. Ashland Mayor Fred Schnook and Washburn Mayor Irene Blakely signed the U.S. Mayors' Climate Change proposal along with 218 other mayors in the U.S. who want to reduce their contributions to global warming.
2. Bayfield became one of four communities in Wisconsin to pilot a "Travel Green" certification program. Twenty-four businesses volunteered to participate. Sustainable Bayfield, one of several groups created through the Sustainable Chequamegon Initiative, surveyed Apple Fest booth vendors in 2005 to assess the quantity of waste generated at this annual October event that draws thousands of people to Bayfield. With the assistance of Sustainable Bayfield, vendors will reduce the waste stream at the 2006 Apple Fest. The Bayfield group also sponsored a sustainable business seminar and is developing bio-diesel guidelines for city and Apostle Islands National Lakeshore use.
3. In Ashland, one study circle lobbied successfully to increase the Bay Area Rural Transit (BART) bus funding that will improve the frequency and availability of stops in the region.

4. In Washburn, the Public Works Director replaced inefficient showers in the city's parks with a more sustainable, on-demand shower heating systems.
5. The Daily Press, the daily newspaper for the region, published a 30-page special section – "Northland Innovations" – which told twenty success stories of sustainable enterprises in the Chequamegon Bay region.
6. The Alliance for Sustainability (AFS), a local, non-profit group that has sponsored educational programs for the past fourteen years, created the Sustainable Chequamegon Initiative (SCI) which is seeking to establish a Sustainable Chequamegon Center to be staffed in 2006 (the establishment of a Center/office is part of this Strategic Plan). The AFS board will have oversight of this Center.
7. Washburn Elementary School has developed a school-wide plan to become a Green & Healthy School.
8. The Town of La Pointe organized a study circle that has formed a Sustainable Madeline group, is planning a sustainability education series, and is using biodiesel in its dump trucks (summer 2006). The La Pointe School students planted and shared a Three Sister's Garden with the community and are involved in composting school waste. They also planted a small orchard and garden that will be the basis for food preservation activities.

Appendix 3 Fano Guidelines

An analysis of 40 European cities and towns identified conditions crucial for building capacity for successful sustainability policies. Named the Fano Guidelines after Fano, Italy, where they were presented in 2004 (see www.governingsustainablecities.org), these ten approaches support and expand the steps presented in the section of this toolkit on *How to Move Toward Sustainability*.

Building Capacity for Local Sustainability includes:

1. Learning as an organization
2. Moving away from policy silos within local government
3. Making alliances with people and organizations
4. Facilitating the process and developing credible leadership
5. Encouraging creativity and innovation in policy making
6. Communicating to make a difference
7. Catalyzing action through raising environmental awareness
8. Maintaining commitment to achieving the long-term vision
9. Sharing experience with peers
10. Influencing all levels of government

[25] The Sustainable Chequamegon Initiative Strategic Plan 2006-2011, pages 3-7

Appendix 4

Letter from Marshfield Mayor Michael D. Meyers to Committee Members

City of Marshfield
City Hall Plaza
630 S. Central Avenue
P.O. Box 727
Marshfield, Wisconsin 54449-0727

MARSHFIELD
The City in the Center

Michael D. Meyers
Mayor
(715) 384-2919
Fax (715) 384-9310
mayor@ci.marshfield.wi.us

June 1, 2006

Dear Eco-municipality Committee Member:

Thank you for agreeing to serve on the city's Eco-municipality Committee. I am honored to have such a group of individuals interested in learning more about this concept and how it might be applied by the City of Marshfield, your place of business, and you personally.

The first meeting is scheduled for June 27, 2006 from 3:00 – 5:00 p.m. at the City Hall Plaza Building in the Common Council Chambers (basement).

I will be joining you as a Committee member because this topic is important to the future of Marshfield for a number of reasons, looking at things from an economic, environmental, and quality of life perspective.

The charge of this Committee are several: to learn more about the concept; to see how this can be applied to the city, our businesses and to each member personally; and to report back to the Common Council with a summary of our findings and any recommendations that the Committee may have that will propel Marshfield into the future.

Respectfully yours,

Michael D. Meyers
Mayor

Appendix 5A

Sample Resolutions for Becoming an Eco-municipality

RESOLUTION # _____
City of Ashland, Wisconsin

Eco-Municipality Designation Resolution

Adoption of Sustainable Community Development Policy

WHEREAS, the City of Ashland has adopted a Comprehensive Plan (2004 – 2024) that calls for "The Making of an Exceptional City", and includes dozens of references to sustainable practices; and

WHEREAS, the adoption of the four systems conditions of the Natural Step can provide a framework that will assist city employees and elected officials in moving in a more sustainable direction; and

WHEREAS, the willingness of the city to move in the direction of becoming an eco-municipality can serve as a model for others and encourage economic development along similar lines in our city and region; and,

WHEREAS, the City of Ashland has a pledge of support through mentorship and consulting from The National Association of Swedish Eco-Municipalities; and

WHEREAS, the following four guidelines were developed by the American Planning Association to help communities implement sustainable practices:

1. Reduce dependence upon fossil fuels, and extracted underground metals and minerals.
2. Reduce dependence on chemicals and other manufactured substances that can accumulate in Nature.
3. Reduce dependence on activities that harm life-sustaining ecosystems**.**
4. Meet the hierarchy of present and future human needs fairly and efficiently.

NOW THEREFORE BE IT RESOLVED that The City of Ashland hereby endorses the principles of sustainable community development described herein, and agrees to apply these principles whenever possible in its planning, policy making, and municipal practices.

Adopted by the City Council of Ashland, Wisconsin this 13th day of September, 2005

_____ _____
Fred Schnook, Mayor Date

_____ _____ _____ _____
Attorney Date City Clerk Date

Appendix 5B1

City of Bayfield
Bayfield County – Wisconsin

A Resolution: A Commitment to Sustainability in the City of Bayfield

WHEREAS, The City of Bayfield acknowledges that the people of Bayfield, Wisconsin desire to create a stable, sustainable future and acknowledge that such a future is not certain.
We recognize that it will take the goodwill and determined work of individuals and communities around the world to achieve this goal. We wish be part of this international network and declare sustainability to be a goal of this City.

We wish to integrate our economy, environment, society and governance in ways that foster vibrant social and economic conditions, and a healthy ecosystem. To that end, we commit ourselves to creating the conditions necessary for a sustainable future. By seeking innovative and flexible solutions to the challenges that confront us, by sharing our knowledge, and by coordinating our actions, we strive to:

1. Reduce and eventually eliminate our contribution to the progressive buildup of materials (and their associated wastes) that are extracted from the Earth's crust.
2. Reduce and eventually eliminate our contribution to the progressive buildup of synthetic materials produced by human society.
3. Reduce and eventually eliminate our contribution to the ongoing physical degradation
of the Earth.
4. Reduce and eventually eliminate our contribution to conditions that undermine people's ability to meet their basic needs.

THEREFORE, BE IT RESOLVED that the City of Bayfield declares its commitment to sustainability as outlined above.

Adopted this 13th day of December in the year 2006 and signed.

_____

_____

_____

_____

_____

THIS IS TO CERTIFY THAT the foregoing is a true and correct copy of a resolution duly and legally adopted by the CITY OF BAYFIELD at a regular meeting held on the 13th day of December in the year 2006.

_____
Billie Hoopman, Clerk

Appendix 5B2

TOWN OF BAYFIELD
Bayfield County – Wisconsin
RESOLUTION 2006-18
A Resolution
Supporting Sustainability in the Town of Bayfield

WHEREAS, the Town of Bayfield Board of Supervisors does hereby acknowledge societies desire to create a stable, sustainable future. We further acknowledge that such a future is not certain, and that it will take the goodwill and determined work of many individuals, organizations, and communities around the world to achieve our goal.
And WHEREAS, we are proud to be part of a community as rich in natural amenities, economic opportunities, and social responsibilities as the town of Bayfield, and to be working on behalf of a future in which our economy, environment, society and governance are integrated in ways that foster vibrant communities, strong economies, and healthy ecosystems. To that end, we commit ourselves to creating the conditions necessary for a sustainable future. By seeking innovative and flexible solutions to the challenges that confront us, by sharing our knowledge, and by coordinating our actions, we strive to:

1. Reduce and eventually eliminate our contribution to the progressive buildup of materials (and their associated wastes) that are extracted from the Earth's crust.
2. Reduce and eventually eliminate our contribution to the progressive buildup of synthetic materials produced by society.
3. Reduce and eventually eliminate our contribution to the ongoing physical degradation of Nature.
4. Reduce and eventually eliminate our contribution to conditions that undermine people's ability to meet their basic needs.

NOW, THEREFORE, BE IT RESOLVED that the Town of Bayfield Board of Supervisors declares its commitment to sustainability as outlined above.
Adopted this 16th day of October in the year 2006 and signed.

_____ _____
Tom Gordon, Chair Gerald L. Carlson, Supervisor

_____ _____
Richard L. Carver, Supervisor Richard C. Compton, Supervisor

_____
William Ferraro, Supervisor

THIS IS TO CERTIFY THAT the foregoing is a true and correct copy of a resolution duly and legally adopted by the TOWN OF BAYFIELD at a regular meeting held on the 16th day of October 2006.

_____
David L. Good, Clerk

Link:

www.townofbayfield.com/files/archive/Ordinances%20&%20Resolutions/Resolution%202006-18%20Sustainability(Clerk%20sig).pdf

Appendix 5C

RESOLUTION #41-06
RESOLUTION BY THE ENVIRONMENT, AGRICULTURE AND EXTENSION COMMITTEE

Subject: Eco-County Designation Supported

WHEREAS, Douglas County acknowledges that a clean and healthy environment determines the quality of life, where the environment can support and sustain the community, and where citizens are committed to local and regional cooperation and a personal philosophy of stewardship, and

WHEREAS, the willingness of Douglas County to move in the direction of eco-county designation can serve as a model for our citizens, encouraging economic development and industrial initiatives while protecting the ecosystem in which they raise their families, and

WHEREAS, Douglas County adopted the Land and Water Resource Management Plan (2002), adopted the Eco-Industrial Development Resolution (2005), is a strong partner in the Lake Superior Binational Forum and St. Louis River Citizen Action Committee, has created policies to control the use of herbicides, disbursement of mercury, remediated the Hog Island site, and implemented a recycling program, and

WHEREAS, Douglas County will include many references to sustainability practices in their comprehensive planning process, and

WHEREAS, Douglas County endorses the following four guidelines which were developed by the Natural Step, and adopted by the American Planning Association, to help communities implement sustainable practices:

1. Reduce dependence upon fossil fuels and extracted underground metals and minerals;
2. Reduce dependence on chemicals and other manufactured substances that can accumulate in Nature;
3. Reduce dependence on activities that harm lifesustaining ecosystems; and
4. Meet the hierarchy of present and future human needs fairly and efficiently.

NOW, THEREFORE, BE IT RESOLVED that the Douglas County Board of Supervisors accept the recommendation of the Environment, Agriculture and Extension Committee and hereby endorses the principles of sustainable community development described herein, and agrees to apply these principles whenever possible in its planning, policy-making and practices.

Dated this 18th day of May, 2006.
(Committee Action: Unanimous) (Fiscal Note: None)

ACTION: Motion by Browne, second Hendrickson, to adopt. Browne advocated strongly for this resolution, and noted Douglas County would be the first county in the nation with this designation.
Brief discussion. Motion carried.

Appendix 5D

STATE OF WISCONSIN VILLAGE OF JOHNSON CREEK JEFFERSON COUNTY
RESOLUTION 37-06

Adoption of Sustainable Community Development Policy
Village of Johnson Creek, Wisconsin

WHEREAS, in the sustainable society, nature is not subjected to systematically increasing concentrations of substances extracted from the Earth's crust, because human society mines and uses substances from below the Earth's surface that are steadily accumulating at levels far greater than their natural occurrence, are being emitted into the atmosphere, cannot break down further and have outstripped the earth's ability to restore itself, and,

WHEREAS, in the sustainable society, nature is not subject to systematically increasing concentrations of substances produced by society, because human society has been manufacturing synthetic substances faster than these materials can be broken down, and,

WHEREAS, in the sustainable society, nature is not subject to systematically increasing degradation by physical means, because human activity is breaking down natural systems –including land, water, forest, soil and ecosystems - by depletion and destruction faster than these natural systems can renew themselves, and,

WHEREAS, in the sustainable society, human needs are met worldwide, because if people around the world cannot meet their basic human needs for air, water, food, shelter, means of livelihood, mobility, equal treatment, equal access, safety, participation in decisions affecting their lives, the right to peaceful enjoyment of life, a connection with nature, and psychological and spiritual connection and meaning, then such inequality will continually undermine the goals identified above, and,

WHEREAS, by endorsing sustainable community development, the Village of Johnson Creek is joining an international network of eco-municipalities and pledging to educate itself further about sustainable activities and to develop initiatives in support of sustainable practices, and,

WHEREAS, the Village of Johnson Creek has a pledge of support through mentorship and consulting from The National Association of Swedish Eco-Municipalities;

NOW THEREFORE BE IT RESOLVED, the Village Board of the Village of Johnson Creek hereby endorses the principles of sustainable community development, as proposed in The Natural Step Program, and agrees to apply these principles in its planning, policy making and municipal practices.

Adopted by the Village Board of Trustees this 14th day of August 2006.

_____
Fred Albertz, Village President

ATTEST: _____
Joan Dykstra, Clerk-Treasurer

Appendix 5E

City of Madison Resolution
Legislative File Number 02486 (version 1)

Adopting The Natural Step Model For Eco-Municipalities As A Guiding Framework For The City Of Madison's Sustainable City Program And Providing Training In Both The Natural Step And Retro-Commissioning For City Staff.

WHEREAS, the recommendations of the "Building a Green Capital City" report, which call for Madison to "adopt a guiding principle on sustainability" to guide the process of Building a Green Capital City, have been approved by the Madison City Council;

WHEREAS, The Natural Step (TNS) model fits this need and has been well shown by the experience of several cities in the United States and over 75 cities worldwide;

WHEREAS, the Sustainable Design and Energy Committee has recommended that the Natural Step model for Eco-municipalities be adopted by the City of Madison as its guiding sustainability framework;

WHEREAS, training recommended by the Sustainable Design and Energy Committee in TNS over a 6 month period is available for City staff and officials at a cost of approximately $20,000;

WHEREAS, it has been determined that the energy and operational/maintenance savings opportunities in City of Madison facilities and operations need to be measured, analyzed, and discerned in house;

WHEREAS, City staff will be required to carry out the energy savings retrofits;

WHEREAS, the Sustainable Design and Energy Committee has recommended that appropriate staff be identified by the Mayor's Office and become trained in commissioning and retro-commissioning at a cost of approximately $30,000;

WHEREAS, funds are available in the City's 2005 Operating Budget for both TNS training and a course on retro-commissioning;

WHEREAS, the City could explore and identify partners to share in this training and cost;

NOW THEREFORE BE IT RESOLVED, that the City of Madison adopt The Natural Step Model for Eco-Municipalities as a guiding framework for the City's Sustainable Program; and,

BE IT FURTHER RESOLVED, that training in TNS be provided for targeted City staff and officials over a 6 month period in 2006 at a cost not to exceed $20,000 with funds appropriated and carried over from the 2005 budget; and,

BE IT FURTHER RESOLVED, that training in commissioning and retro-commissioning be provided for appropriate City staff which have been identified by the Mayors Office in 2006 at a cost not to exceed $30,000 with funds appropriated and carried over from the 2005 Budget; and

BE IT FURTHER RESOLVED, That the City of Madison will explore and identify other partners to share in this training and its cost.

A total of $50,000 has been appropriated and is available in the 2005 Operating Budget - Account No. GN01-54301-287000. Funds not contracted or encumbered by the end of this year will lapse to the General Fund balance and may be appropriated again next year by amending the 2006 Operating Budget.

Appendix 5F

RESOLUTION #05-021

City of Washburn, Wisconsin

Adoption of Sustainable Community Development Policy

WHEREAS, in the sustainable society, nature is not subject to systematically increasing concentrations of substances extracted from the Earth's crust, because human society mines and brings into use substances from below the Earth's surface, that along with their emissions are steadily accumulating at levels far greater than their natural occurrence and cannot break down further; and,

WHEREAS, in the sustainable society, nature is not subject to systematically increasing concentrations of substances produced by society, because human society has been manufacturing synthetic substances faster than these materials can be broken down, and,

WHEREAS, in the sustainable society, nature is not subject to systematically increasing degradation by physical means, because human activity is breaking down natural systems—land, water, forests, soil, ecosystems—by depletion and destruction faster than these natural systems can renew themselves; and,

WHEREAS, in the sustainable society, human needs are met worldwide, because if people around the world cannot meet basic human needs—air, water, food, shelter, means of livelihood, mobility, equal treatment, equal access, safety, participation in decisions that affect our lives, the right to peaceful enjoyment of life, a connection with nature, and psychological and spiritual connection and meaning—then this inequality will continually undermine the goals identified above; and,

WHEREAS, by endorsing sustainable community development, The City of Washburn is joining an international network of eco-municipalities, and taking the initiative to become one of the first four eco-municipalities in the United States; and,

WHEREAS, the City of Washburn has a pledge of support through mentorship and consulting from The National Association of Swedish Eco-Municipalities;

NOW THEREFORE BE IT RESOLVED that The City of Washburn hereby endorses the principles of sustainable community development, as proposed in The Natural Step Program, and agrees to apply these principles in its planning, policy making, and municipal practices.

Adopted by the Common Council for the City of Washburn, Wisconsin this 11th Day of July, 2005.

_____

Irene Blakely, Mayor

Appendix 6

Madison Mayor's Memo Outlining the City's Reasons for Using The Natural Step Sustainability Framework

RE: **The Natural Step**

From: Mayor Dave Ceislewicz
To: Department and Division Heads Meeting
Date: September 25, 2006

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their needs. (UN Brundtland Report, 1987)

The City must move toward sustainability. As a service provider, the City of Madison and its operations have a huge impact on the environment. With over 2,700 employees, it is the eighth biggest employer in Dane County.
It maintains over 750 miles of street, occupies over 3.7 million square feet of office and building space, consumes 54 million kWh of electricity and 1.3 million therms of natural gas, hauls almost 60,000 tons of garbage and recycling, maintains 6,000 acres of parks, and burns over 2.3 million gallons of fuel to run its buses and fleet vehicles.
It's hard to imagine a single entity in the area that has a bigger impact on the environment than City government.

Because the City is both consumer and steward of our environment and its resources, we must incorporate the principles of sustainability to ensure the needs of tomorrow can be met.

Areas for improvement. Based on basic scientific principles, The Natural Step framework lays out many conditions and methods that will help the City make progress toward sustainability. To ensure we are moving toward sustainability, the City will take the following steps.

1. Because resources like fossil fuels, metals and minerals can have adverse effects when they are dispersed and accumulate in our land, air and water, the City will reduce its consumption of materials extracted from the Earths crust.

2. Because the accumulation of pesticides, fertilizers and other persistent chemicals are harmful to people and the environment, the City will reduce its dependence on these kinds of man-made chemicals.

3. Because ecosystems take a long time to recover from physical destruction (if they can at all), the City will mitigate its impact through wise land use policies, low-impact maintenance practices and environmentally friendly design.

4. Because everyone deserves to be healthy and safe, the City will work to ensure safe working and living environments for its residents, visitors and employees.

A comprehensive approach. We have already made a lot of progress toward these goals. However, we can do even more if we approach decisions about our policies, operations and capital improvements in a more systematic way.
Using The Natural Step framework, the City will:

a) Work to increase awareness of sustainability among its staff and management. This will provide us with a common language and keep all of us thinking about the impact we have during the course of our daily tasks.

b) Take an inventory of current efforts that make progress toward sustainability and be frank about areas that need improvement. We will enhance our current efforts and identify additional improvements.

c) Formulate vision of what sustainability means for the City and identify long-term goals necessary to achieve that vision.

d) Incorporate the awareness and terminology of sustainability into our budget decisions, program administration and project development.

To achieve this, we will ask questions of relevant projects or policies like:

- Does this help move the City toward sustainability (even if incrementally)?
- Will elements of this project serve as a potential stepping stone toward other changes or initiatives?
- Will increased implementation costs yield savings in the long-run or provide a social or environmental return on investment?
  Some likely candidates and examples for treatment using The Natural Step are:
- Land use planning annexation, acquisition, density, zoning, watershed management
- Transportation maintenance and construction of transit systems, streets, parking facilities
- Infrastructure management utility operations, building maintenance, public housing operations
- Economic development rewarding and encouraging businesses to use less fossil fuel, recycle more and use fewer man-made chemicals
- Parks and open space mowing, maintenance, lighting

Toward a *Sustainable* Community:

A Toolkit for Local Government

1000 Friends of Wisconsin

Authors:

Sherrie Gruder, *UW-Extension, Madison, Solid and Hazardous Waste Education Center*

Anna Haines, *UW-Stevens Point, Center for Land Use Education*

Jerry Hembd, *UW-Superior, Northern Center for Community and Economic Development*

Lisa MacKinnon, *1000 Friends of Wisconsin*

Jane Silberstein, *UW-Extension, Ashland County*

focus on energy
The power is within you.

UW Extension