Dane County Sustainable Practices Staff Team
Sustainability Training & Inventory

Report and Recommendations
to the Dane County Board of Supervisors

11 August 2008

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Introduction

Dane County represents the heart of Wisconsin. Its boundaries encompass the state capital, university center, corporate headquarters of diverse industries and the rich local farm land that drives the state's agricultural output. Like many regions across the country, Dane County is at a crossroads. According to *Regional Trends 2006*, published by Dane County's Department of Planning and Development, total population is up 8.9% from 2000. Villages and towns have averaged 13.8% population growth in the same time period. Development in towns increased at more than double the rate of that within the cities. Agricultural land being converted for future commercial and residential development increased in value by 44.5% in 2005, while the value of land sold for continued agricultural use decreased by 13.5%. Seventy-seven percent of residents drive by themselves to work, totaling 10.1 million vehicle miles traveled per day (in 2000).

Members of the Dane County Sustainable Practices Staff Team

Ron Boylan, Dane County Sheriff's Department
Kevin Connors, Dane County Land and Water Resources Department
William DiCarlo, Alliant Energy Center
John Dunn, Alliant Energy Center
Chuck Erickson, Dane County Supervisor
Lynn Green, Health and Human Services
Bonnie Hammersley, Department of Administration
James Hubing, Dane County Zoo
Brad Livingston, Dane County Airport
David Mahoney, Dane County Sheriff's Department
Jerry Mandli, Dane County Public Works
David Merritt, Clean Air Coalition
Travis Myren, Department of Administration
Karin Peterson Thurlow, Office of the Dane County Board of Supervisors
Todd Violante, Dane County Planning and Development

Globally the rise in population and consumption of resources is far outpacing the earth's capacity to supply those resources. "Humanity's Ecological Footprint, our impact upon the planet, has more than tripled since 1961. Our footprint now exceeds the world's ability to regenerate by about 25%" (WWF Living Planet Report, 2006). Local governments feel the stress of this trend through increasing regulations and the escalating costs of energy, raw materials, and health care.

In response, the county has incorporated the goal of becoming more sustainable into its recently-adopted Comprehensive Plan. It also is striving for a variety of transportation systems and cleaner energy production to reduce the effects of greenhouse gas emissions and protect public health. In addition, the county has adopted polices to preserve water resources, such as banning phosphorus fertilizer in 2004, creating programs to assist farmers with storm water runoff, and purchasing environmentally sensitive lands to ensure that important ecosystem services such as flood control and groundwater recharge are maintained. Despite these collective efforts, Dane County still has measurable problems associated with environmental degradation.[1]

[1] In a July 2008 report published in the Wisconsin Medical Journal, Dane County ranked last in water quality and in the bottom quartile of air quality amongst the 72 Wisconsin counties (Volume 107, No. 4).

By recognizing the trends contributing to our current non-sustainability, and planning accordingly, a more comprehensive and effective approach to the goal of sustainability can be realized. The opportunity to protect the environment and ensure a high quality of life for its citizens is achievable through a systemic and strategic approach to sustainability in the county's planning, operations and management. Success in reaching the goal will require prioritizing and integrating sustainability at all levels. Dane County's decision to move in the direction of sustainability in a manner that is systemic and strategic, rather than piecemeal, would serve as a model for its citizens, as well as local businesses and municipalities. It would provide the county with an opportunity for meeting current and future challenges in creative ways and encouraging economic development that is consistent with, and supportive of, a sustainable future.

In December 2007, the Dane County Board of Supervisors passed 2007 Resolution #210, which directed a county staff team ("Dane County Sustainable Practices Staff Team") to begin the preliminary planning necessary to develop recommendations to implement sustainability principles for Dane County operations, and to inventory existing sustainable practices already in place within the county *[see Appendix A for 2007 Resolution 210]*.

Chaired by the Director of the Department of Administration, the Dane County Sustainable Practices Staff Team includes representatives from the Department of Administration, the Department of Human Services, the Department of Land and Water Resources, the Department of Public Works, Highway, and Transportation, two County Board Supervisors, one from the Environment, Agriculture and Natural Resources Committee, and one from the Health and Human Needs Committee, both appointed by the Chair of the County Board.

It cannot be emphasized enough that sustainability needs to be a community priority at all levels in order to achieve a significant difference. As a step in that direction, the Dane County Sustainable Practices Staff Team provided its diverse members with initial training based on The Natural Step sustainability framework in order to help them recognize the importance of every day decisions that affect Dane County's current and future sustainability. Success in achieving sustainability will depend on the capability of those in charge of developing a systematic process for translating and implementing the county's vision of sustainability into practical strategies. Success also will depend on the willingness of those translating and implementing the county's vision of sustainability to make a strong and continuing commitment to prioritize these efforts in the face of budgetary and other constraints. This report and set of recommendations provide a starting point for making such a commitment.

The remaining sections of this report outline the general course of the training workshops, the inventory of the county's current initiatives contributing to sustainability, and recommendations for next steps the county can take to strengthen its commitment to and achievement of system-wide, strategic sustainability.

Outline of the Training Workshops

To help develop sustainable practices for Dane County government the training team was charged with the following:

- Deliver training on the Natural Step sustainability framework through e-learning, facilitated meetings, presentations and materials.
- Through a process of facilitated meetings, draft and finalize a report with both an inventory of current practices and detailed recommendations and budget implications for moving forward with further implementation of sustainable practices using the Natural Step framework.

The Sustainability Framework

The theoretical process that the training is based upon is represented in Figure 1 below. A key concept of the process is the principle that effective planning is predicated on a clear vision of success. In this case we ask: "What does the County look like when sustainability is achieved?" Answering this question describes the vision, and with a clear vision established, the County then asks: "What are we doing today to reach that vision? What actions will get us there, and which actions do we take first?"

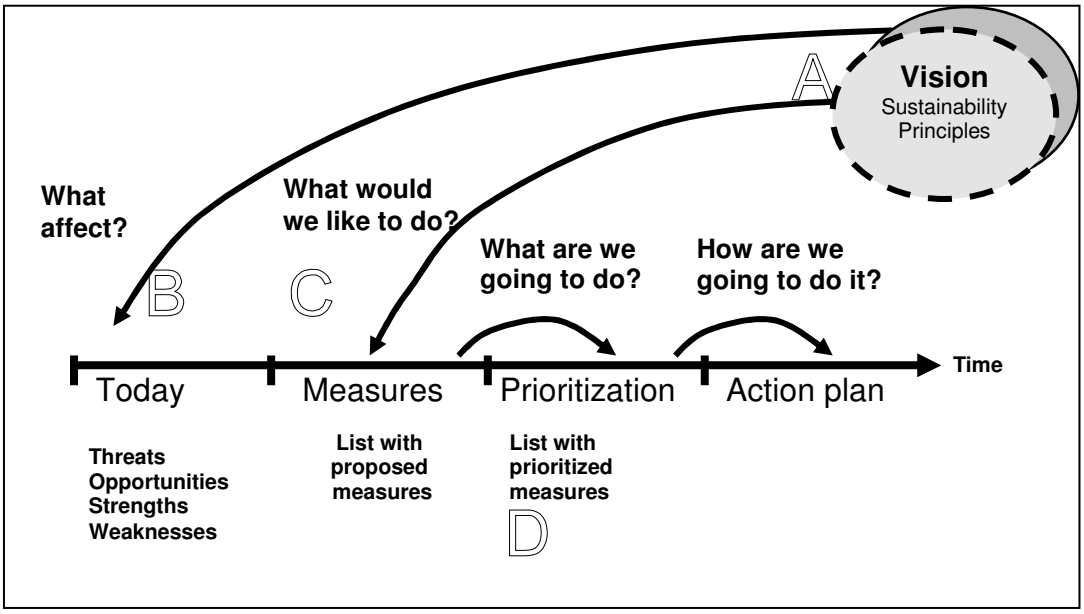

Figure 1: Strategic Planning Process
(Strategic Leadership Towards Sustainability, 2006)

This process is often referred to as an ABCD strategy.

A Awareness building about sustainability principles, global trends, and strategic planning
B Baseline analysis of the current organizational reality
C Creative generation of ideas/strategies to reach sustainability
D Down to action, prioritize ideas and create an action plan

A definition of sustainability that is science-based and robust enough to guide decision-making is what anchors the ABCD process. Throughout this process the System Conditions for a sustainable society act as guiding principles.

1. concentrations of substances extracted from the Earth's crust,
2. concentrations of substances produced by society,
3. degradation by physical means and, in that society...
4. people are not subject to conditions that systematically undermine their capacity to meet their needs.

Table 1: The Four System Conditions

The System Conditions, also called Sustainability Principles, were developed by first determining the underlying causes of *non-sustainability.* The underlying causes of environmental and social destruction were identified as the four systemic mechanisms listed above. By adopting the conditions as guiding principles, communities can work to eliminate their contribution to non-sustainability at their own pace. Communities facing larger risk, with high environmental/ social impact, or that stand to gain the most will work to meet the sustainability principles as quickly as possible.

The strength of these Sustainability Principles is that they are the only non-overlapping, non-prescriptive and science-based definition for sustainability in existence today. Because they are complete enough to guide planning from high-level concepts down to the complex detail level, they provide a great deal of flexibility for all types of organizations that wish to minimize their negative environmental, economic and social impacts.

The Training Workshops

On May 29, 2008, all members of the Dane County Sustainable Practices Staff Team were required to complete a one-hour on-line learning program, facilitated by the training team, which established the background for the three training workshops that followed.

The training team met with a subset of the Dane County Sustainable Practices Staff Team before, during and after the training workshops to gather input and develop general agreement about next steps and guidance to complete this report.

Three half-day workshops were developed and facilitated by the training team. A majority of the members of the Dane County Sustainable Practices Staff Team participated in these workshops on June 12, July 10 and July 17. The workshops included:

Workshop #1:

- A sustainability overview presentation that included an introduction to the Natural Step sustainability framework and the process of "backcasting" from system conditions and the ABCD method of strategic planning for sustainability.
- A group exercise to illustrate "the Funnel" concept -- a metaphor for our current sustainability situation.
- A baseline exercise to initiate the inventory process and determine where the county is presently contributing to sustainability, identify opportunities to build upon and identify sustainability issues to prioritize. Participants analyzed the county's contribution to sustainability and to non-sustainability through the lens of the four "system conditions" for sustainability. Participants were asked to determine how their departments' operations and management, projects, initiatives and policies meet or violate the sustainability principles and how their department's interaction /communication/ impact on the public (residents, businesses, and organizations) meet or violate the sustainability principles. They also were asked to determine where issues applied to multiple departments *[see Appendix B for Baseline Inventory Exercise Results]*.
- An introduction to creating a "compelling vision" based on the system conditions for sustainability to brainstorm ideas that will lead to a sustainable Dane County.
- A discussion of the City of Madison Natural Step implementation case study *[see Appendix C for City of Madison Case Study]*.

Workshop #2:

- A presentation and exercise on Manfred Max-Neef's Human Needs matrix and the 4th system condition for sustainability *[see Appendix D for Human Needs Materials and Exercise]*.
- More detailed presentations and exercises on the baseline and compelling vision aspects of the backcasting process. Participants assessed the results of the Department-wide Sustainable Initiatives Inventory *[see Appendix E for Department-wide Sustainable Initiatives Inventory Results]* for completeness and possibilities for cooperation across the following sectors: Cultural, Recreational and Educational; Health and Human Services; Public Safety and Criminal Justice; and Public Works Activities. They chose a number of initiatives from each sector and considered how each initiative affects their sector and what could be done to increase the benefit for their sector, help their sector reach sustainability, and meet a vision of sustainability for the county *[see Appendix F for the Baseline-Compelling Vision/ Systems Impact Exercise Results]*.
- Participants also began to generate a more detailed compelling vision of sustainability for the county based on the following questions: 1) What are the characteristics of a sustainable Dane

County (based on the system conditions for sustainability, the baseline inventory, and the systems impact exercise); 2) What's the vision for a sustainable Dane County? Generic actions, initiatives, policies, strategies, tools?; and 3) What are major things that need to be done to get you there?

Workshop #3:

- Review of Human Needs materials and exercises.
- Review of draft recommendations.
- Participants performed a backcasting exercise to prioritize sustainability initiatives by individual department. The whole group of participants then re-convened and conducted a multi-voting process whereby they were given a limited number of votes and had to prioritize the list across county departments *[see Appendix G for ABCD / Backcasting by Department Exercise Results]*.
- Introduction to the D-Step: Prioritizing Actions. Presentation on the "down to action" step of the ABCD backcasting process. Participants learned about how to prioritize actions in the most effective, strategic way to create early successes and build on them. Examples included the City of Whistler's Capital Budget Assessment Worksheet and the City of Madison Project Charter Worksheet *[see Appendices H and I, respectively]*.
- Participants practiced a prioritizing actions / strategic question exercise on one of the top initiatives chosen in the group Backcasting by Department Exercise *[see Appendix J for the D-Step, Prioritizing Actions Worksheet Exercise Results]*.
- Detailed discussion and review of draft report and proposed recommendations for further implementation of sustainable practices using the Natural Step framework.

Dane County Sustainable Initiatives Inventory

As part of the county's efforts to implement sustainability principles into its operations, an inventory of current activities and practices was an expected outcome of these trainings (*See Appendix E*).

To populate this inventory, a survey was emailed to each of the county's department heads participating in the training. The survey requested responses to questions aimed at gathering operating policies, procedures and controls, capital projects and equipment/machinery purchases, employee and employment policies, and public outreach and programs that directly serve citizens and that have been implemented with the intention to advance the principles of sustainability. Those surveyed were asked to provide some detail about the activity and, if possible, the benefits and cost reductions known to be associated with that activity.

The current responses to the inventory can provide some guidance to decision-makers in the future; and it could be enhanced by collecting more detailed information if decision-makers are proactive in learning from the experiences of these activities and practices. However, the

inventory responses did not provide a comprehensive list of activities or much information about the benefits and cost reductions due to the practical limitations of collecting such information and/or its limited availability. Neither the response to the survey, nor this report, offer a comprehensive analysis of the ways in which the county operates that may be in violation of sustainability principles.

Recommendations

The following recommendations are based on the results of exercises and discussions conducted with the Dane County Sustainable Practices Staff Team and facilitated by the training team, as well as on the experiences and observations of the training team with the Dane County Sustainable Practices Staff Team. The tools to implement the recommendations have been provided via the training for the Dane County Sustainable Practices Staff Team; their ability to execute the recommendations depends upon their continued commitment and the availability of the appropriate resources.

1. Create a sustainability leadership team

Purpose/need: The county government faces a future challenged by the constraints of rising operational costs, increasing need for services and limited budgets. There is a need for an effective leadership team that can balance long-term sustainable success with short-term, immediate challenges.

Leadership can be developed at all levels. However, the complexity and all-encompassing nature of working toward sustainability require complex skills and a level of responsibility and accountability that will ensure that timely progress is made. Successful sustainability planning requires leadership from the top and engagement at every level. We recommend that the Sustainability Leadership Team be comprised of key department heads, staff members from the County Executive's office and also include other natural leaders in county government who are:

- Respected by peers inside and outside their department or division and are able to organize, network, and gain the support of others
- Good communicators
- Interested in the content of sustainability and in being an agent for implementation and success
- Supported by their supervisor

The leadership team could also include key community leaders or representatives from local organizations recruited for their expertise; however this may limit the team's progress due to more complicated scheduling.

In addition, the county should immediately provide the leadership team with staff resources to supplement the work of the leadership team that can provide access to information, resources and

training opportunities and help to implement its recommendations. Without dedicated staff resources, the county and leadership team will be severely limited in their ability to facilitate collaboration among various county operational units in developing standardized sustainability policies, priorities, and practices. By waiting to provide staff resources, the county misses the opportunity to reap the benefits of numerous actions that can be implemented with immediate returns.

***Suggestions to consider**:*
(The letter listed after a specific suggestion indicates the paragraph where the suggestion is described in more detail in the *Expanded Suggestions Section* below):

- Create a County Sustainability Plan.[2]
- Define the purpose around a county sustainability vision.[3] (A)
- Facilitate the completion of a county-wide sustainability analysis. (B)
- Develop and implement a top ten project list for 2009. (C)
- Create a subgroup of a Sustainability Steering Team to coordinate preparation, timing and logistics for monthly meetings.
- Provide staff resources to coordinate activities and work with the Sustainability Team across all county departments. (D)
- Conduct a complete Natural Step A-B-C-D backcasting process for a selected county department as a demonstration project for other departments.[4] (E)
- Foster cooperative and collaborative agreements outside of county government to leverage opportunities to achieve mutually beneficial results. (F)

2. Commit to continuous outreach and education
Purpose/need: Sustainability is a complex concept. Through the training process, participants were provided with a framework for understanding sustainability at the strategic level. Many tools and programs exist (Environmental Management Systems, Retro-commissioning, LEED Certification, ICLEI, etc.) that compliment the Natural Step sustainability framework and can help the county integrate strategic sustainability into specific actions. Continued sustainability-oriented education and outreach to a broader county stakeholder group can provide the knowledge necessary to facilitate improved decision-making processes and will be necessary to build critical support for any future major initiatives or projects that will help the county meet its sustainability objectives.

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[2] The Integrated Community Sustainability Planning Tool provides an outline of the process http://www.naturalstep.ca/scp/documents/Integrated_Community_Planning_Tool_March2007.pdf

[3] Case Study; City of Santa Monica http://www.ortns.org/documents/santamonicacasestudy.pdf

[4] Teslin Integrated Sustainability Plan [ABCD] http://www.naturalstep.ca/documents/MicrosoftWord-TeslinICSPFinal.pdf

Suggestions to consider:

- Develop a communications effort to creatively highlight the county's current sustainability efforts to the broader community.[5]
- Hold monthly peer-to-peer sustainability gatherings. (G)
- Broaden Natural Step introductory training by establishing training goals for who and how many will be trained per month/year.[6] (H)
- Expand E-learning program to additional key stakeholders. (I)
- Create and maintain a regularly updated repository of information on the county's sustainability efforts including, but not limited to, documentation of project progress, resource materials such as staff-created presentations, etc.

3. Implement "low hanging fruit" initiatives and track measurable progress

Purpose/need: Act quickly on obvious upgrades that will take little investment but will generate visibility and savings. Doing so will generate broad support for longer term initiatives and investments.

Suggestions to consider:

- Ensure that savings generated from sustainability initiatives are applied strategically in ways that advance further sustainability.
- Choose early wins that can be replicated quickly across multiple departments/sectors.
- Create benchmarks to measure progress for each "low hanging fruit" initiative and follow up to see that those initiatives are meeting benchmarks.
- Choose some early initiatives that are especially visible and accessible for public participation.

Expanded Suggestions Section

A. Create a sustainability vision – The A-B-C-D process gives the county a common language and tool to create a vision for sustainability that will increase the likelihood of effective planning, decisions and outcomes.

B. Conduct a sustainability analysis of Dane County's operations – A sustainability analysis assesses the county's major flows, programs and practices (i.e. energy, materials, water, facilities, labor, etc.) from a sustainability perspective to benchmark current initiatives, and highlight potential risks and opportunities for moving forward. Flexible strategies are then developed in order to move from the current state toward a sustainable one. Such an analysis could be conducted by county staff with coaching and support by the training team or could be conducted by the training team directly.

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[5] http://www.whistler2020.ca/ involvement, actions, resources on website

[6] Case Study; Scandic Hotels http://www.ortns.org/documents/scandichotels.pdf

C. Develop and implement a top ten project list for 2009 – Throughout the training, county employees demonstrated an enthusiasm to begin on actions immediately. The county should work on projects in the form of at least, but not limited to, ten "low-hanging fruit" efforts (*See Appendix K for a list of Immediate Action Items generated by the Dane County Sustainable Practices Staff Team*). By acknowledging and promoting the projects in a publicly visible "Top 10" list, the county demonstrates a process that is more intentional and ongoing, and that has accountability attached to it. A Top Ten project list should adhere to the following general criteria:

- Completed with quantitative results within a one-year time frame
- Conceptualization based upon a solid examination of examples that demonstrate a high likelihood of replicating success

Examples of top ten projects might include:

- *Identifying high energy consumers in county government.* This includes a review of the county's current inventory of buildings, equipment, and use of electricity and natural gas. It also includes the potential for formulating uniform lighting specifications and energy and ventilation standards for all county facilities.
- *Establishing green purchasing and disposal policies.* This includes creating standards and processes for county office equipment, furnishings, supplies, computer and other electronic purchases and their end-of-life disposal.
- *Creating a "Green Fleet" initiative*. This includes ongoing replacement of vehicles with more fuel efficiency over 5-15 years by developing purchasing standards and exploring ways to promote carpooling among county employees.

Each project would be directed by a project team consisting of one or more individuals that are directly affected by the development and/or execution of the project and have participated in Natural Step training. Each project team should have a designated project leader who is:

- Respected by peers inside and outside department or division and able to organize, network, gain the support of others
- Good communicator
- Interested in the content of sustainability and in being an agent for implementation
- Supported by their supervisor

Natural Step project charters are a useful tool created to ensure a pre-examination of project design with respect to project goals and measures of success, deliverables, key stakeholders, resources required and strategic analysis of sustainability (*See Appendix I for a template TNS project charter)*.

D. Provide staff resources to coordinate sustainability efforts and staff the leadership team Dedicated staff will provide the support required by the county in its sustainability efforts and could begin to facilitate the collaboration of various county operational units in developing standardized sustainability policies, priorities, and practices. Staff should, at minimum, produce an annual sustainability report, apply for and manage external grants and build effective partnerships amongst county departments and with local organizations to assist in sustainability efforts.

Many communities and larger organizations have chosen to staff their efforts by creating a dedicated Sustainability Coordinator position after reaching the conclusion that such a position can pay for itself through annual savings achieved through sustainability initiatives (*See Appendix L for Examples of Municipalities with Full-time Sustainability Coordinators or Departments*). Communities that have taken the initiative to create a full-time Sustainability Coordinator benefit by having the capacity to focus on a wider range of essential activities to strategically move toward sustainability, including:

- Developing management systems to provide regular data collection and analysis and performance measure tracking
- Creating partnerships with businesses in the community and with other public agencies in the region that are involved in sustainability initiatives to conduct public outreach and stimulate economic development
- Identifying cost-saving, life-cycle, and/or short- to medium-term pay-back approaches
- Managing grants to support piloting of sustainable approaches to accomplishing critical municipal functions
- Assisting in the preparation and monitoring of budgets and in authorization of expenditures related to the municipality's sustainability efforts
- Facilitating intra-departmental and inter-departmental coordination of projects

E. Conduct a complete Natural Step A-B-C-D process for a selected county department – The Natural Step A-B-C-D methodology could be implemented and tested to create a long-term comprehensive sustainability plan at the department level. This endeavor would emphasize education and a planning process to help the participating department move strategically toward sustainability. The pilot process will also yield lessons, tools, and practices for implementation that can be replicated in other departments.

F. Foster cooperative and collaborative agreements – Many of the county's efforts imply or will require partnership with other entities. For example, many communities have formed partnerships with local universities to provide ongoing research and technical support. The City of Madison, in a joint initiative with Madison Gas and Electric, received $1.8 million to invest in green energy projects over a period of eight years.

G. Hold monthly peer sustainability gatherings - To maintain the momentum and functionality of a peer-to-peer learning process, we recommend one and one-half hour monthly gatherings open to all county employees that have participated in sustainability-oriented trainings. Each convening will be optional at the discretion of supervisors, but strongly encouraged for employees to attend and share their progress and challenges regarding their own project execution. These gatherings also serve as excellent fora for experts to present model efforts being implemented in various departments and on specific sustainability-oriented issues. Frequently, challenges are not limited to one project and a learning environment can be created for efficient problem resolution. We expect that gatherings will also yield inter-departmental cooperation and create opportunities for improved efficiency and effectiveness.

H. Broaden Natural Step introduction trainings – Prioritized groups to receive training include leadership team members not previously trained, executive/department head level people who want it, and people with experience implementing current sustainability initiatives from the inventory.

Through TNS training, trainees will develop a necessary familiarity with the principles and ABCD strategic planning process of The Natural Step. It is well-suited for establishing the creation of a common language and foundation to bring together the social, environmental, economic, and cultural aspects of Dane County's sustainability objectives. The City of Madison's Organizational Development and Training Officer currently offers similar training to City of Madison employees and we are confident a partnership could be developed to open the these trainings to county employees. Typical Natural Step introductory trainings are ½ day training sessions.

I. E-learning training – The county may decide to offer an expanded number of employees the opportunity to obtain training on sustainability and the Natural Step Framework by taking the *Sustainability – Step by Natural Step* e-learning course. A training program that blends in-person sessions and e-learning could be developed by the county staff who have participated in the training program highlighted above.

Conclusion

The formation of the Dane County Sustainable Practices Staff Team and the recent sustainability trainings and inventory is a first step toward a more comprehensive and strategic approach to sustainability. Assuming a strong and continuing commitment on the part of the County Executive, county department heads and staff to prioritize these efforts in the face of budgetary and other constraints, this thorough approach can be used across all county departments and functions to transform the county's policies, planning, operations, management and decision making into a sustainability success story as it serves its citizens into the future.

APPENDIX A

2007 RESOLUTION 210,
DANE COUNTY RESEARCHES SUSTAINABLE PRACTICES IN ITS OPERATIONS, MANAGEMENT AND POLICYMAKING

Dane County recognizes that a clean and healthy environment determines the quality of life for its citizens, 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.

The willingness of Dane County to move in the direction of sustainable practices can serve as a model for our citizens, encouraging economic development and sustainable agriculture while protecting the ecosystem in which they raise their families, and seek their livelihoods.

Dane County is already pursuing the goals of becoming more sustainable in its planning, operations and efforts to protect the environment.

The recently passed Comprehensive Plan mentions that Dane County will focus on development that meets the needs of the present without compromising the ability of future generations to meet their needs. It encourages a variety of transportation systems as well as cleaner energy production, to reduce the effects of greenhouse gas emissions and to reduce or eliminate the number of Clean Air Action Days declared by the County.

In its ongoing efforts to adopt sustainable energy practices, Dane County has specified in the 2008 budget that 20 percent of the energy purchased at the Dane County Regional Airport be from renewable and clean energy sources. Dane County also initiated a performance contract to identify, install and finance energy efficiently projects in existing facilities.

Additionally, Dane County has adopted polices to preserve our water resources such as banning phosphorus fertilizer in 2004, creating programs to assist farmers with storm water runoff, and purchasing lands that are environmentally sensitive.

Dane County desires a systematic approach to be used across all its departments and functions, and to adopt sustainable approaches in its policy decision making, planning for its future, and day to day business operations and management in serving its citizens.

NOW BE IT RESOLVED that the Dane County Board of Supervisors directs a county staff team to begin the preliminary planning necessary to develop recommendations and budget implications to implement sustainable principles for Dane County operations, and inventory

existing sustainable practices already in place. The staff team should include, but does not need to be limited to, appropriate staff from the Department of Administration, the Department of Human Services, the Department of Land and Water Resources, and the Department of Public Works, Highway, and Transportation. Additionally, the staff team will include two County Board Supervisors, one from the Environment, Agriculture and Natural Resources Committee, and one from the Health and Human Needs Committee, both appointed by the Chair of the County Board. The team will be chaired by the Director of the Department of Administration, or her designee. The Office of the County Board shall provide staff support.

BE IT FURTHER RESOLVED the staff team shall report to the Environment, Agriculture, and Natural Resources Committee with recommendations and benchmarks by June 30, 2008 or earlier.

BE IT FINALLY RESOLVED that the staff team seek input from individuals knowledgeable about sustainable practices and models, and consider approaches used in other communities that have adopted this approach.

Submitted by:

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(primary sponsor)

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APPENDIX B

Dane County Sustainable Practices Staff Team
Training Workshop #1 -- 12 June 2008

Baseline Inventory Exercise Results

The following list was generated by County Sustainable Practices Staff Team members during the baseline analysis exercise in Workshop #1. Participants gathered in multi-departmental groups to generate a list of current county actions, initiatives, policies, etc. that are moving the county in the direction of meeting one or more of the four sustainability principles ("system conditions") identified by the Natural Step sustainability framework. The groups also generated a list of actions, initiatives, policies, etc. that currently are violating one or more of the sustainability principles.

Note: In some cases several roman numerals are listed at the end of an action. Those are examples of how an item might fit under more than one principle / system condition.

Sustainability Principle / System Condition #1
In a sustainable society, nature is not subject to systematically increasing concentrations of substances extracted from the Earth's crust.

Meeting Condition 1
- Purchase food locally – transportation, fuels used less
- HVAC – less natural gas and coal
- Working off peak hours – energy efficiency
- Johnson Controls
- Lighting BPHCC
- Building improvements-windows
- Courthouse mechanicals
- Day cleaning in City County building avoids using lights, energy at night (coal & gas)
- Local products used in construction projects
- Retrofit School buses – reduce pollution and diesel use
- Anti-idling DC Fleet – saving fuel, less pollution
- Recycling ordinance
- LEED guidelines in construction process – natural gas and coal use reduced
- 20% of power through MGE's green program (airport)
- Solar panels (airport/zoo)
- Decreased water consumption (zoo) (I, III)
- Energy efficient boilers (zoo/airport)
- HVAC replaced (I, IV)
- Super insulated buildings
- Compost manure (Zoo) (I, III)
- Recycling (Zoo) (I, III)
- LEED Silver level operations (zoo/airport) (I,II,III, IV)

- Mulch from city (zoo) (I, III)
- Landfill gas converted to energy
- Personnel policies that discourage use of private vehicles

Violating Condition 1
- Subsidizing employee parking at CCB parking ramp encourages SOV use and gas use
- Vehicle purchasing policy inconsistent
- Solid waste
- Sheriff
- Parks
- Vehicle fuel purchasing policy
- Starting to explore biodiesel fuel
- Gas, diesel, glycol fueled vehicles
- 48% electricity comes from coal (airport)
- Almost 100% electricity from coal (zoo)
- Sand, gravel for grounds and buildings (zoo/airport)
- Salt use (airport)
- The tropical rainforest exhibit at the zoo is the biggest energy user in the county (zoo)
- Gas and diesel vehicles used by visitors to zoo, other locations (I, II, III)
- Unnecessary lighting
- Use of vehicles and driving is increasing (b/c of centralized offices, fewer field offices) (I, II, III. IV)

Sustainability Principle / System Condition #2
In a sustainable society, nature is not subject to systematically increasing concentrations of substances produced by society.

Meeting Condition 2
- Run way de-icing liquid
- Less toxic
- biodegradable
- DC facility cleaning supplies
- Less toxic chemicals
- Retrofitted school buses – produce less fine particular pollution
- Water run off is treated (airport) (III)
- No fertilizers or weed killers are used (air/zoo)
- Prairie landscaping utilized (zoo/air) (III)
- Green roofs (zoo/airport) (III)
- Rain gardens at zoo (I, II, III)
- Fluorescent bulb recycling keeps heavy metals out of landfills and ground (II, III)
- New non-toxic deicing liquid at airport (II, III)
- Using more citrus based cleaning products (II, III, IV)

Violating Condition 2
o Vehicle fuel purchasing policy
o Piloting of hybrid vehicles
o Storm drains did not go into detention pond
o All drains directed to central detention pond
o Aircraft idling engines at gate
o Incorporate auxiliary power units, allows airplanes to use electricity
o Building policy regarding heating sources – project by project analysis
o Each building project should include investigation into alternatives
o Use of VOC compounds (how? where?)
o Aircraft idling at the gate (I, II)
o Use of corrosive cleaning products (II, III, IV)

Sustainability Principle / System Condition #3
In a sustainable society, nature is not subject to increasing degradation by physical means.

Meeting Condition 3
o Runway 14 project
o Improve public safety
o Remove railroad tracts
o Land mitigation,
o Less impact on Cherokee marsh
o Smart growth policies
o Water quality policy – phosphorus ban
o Manure digesting – improve water quality and air quality
o Recycle visitor and passenger waste (zoo/air)
o Prairie landscaping (zoo/air)
o Use 60% less grass (zoo)
o No storm water run off to the lakes (zoo)
o Recycling visitor and passenger waste at airport (reducing impact on landfills, trees cut down)
o County manure management study (manure digesters to save lakes, air quality, etc)
o Tree planting (100,000 trees per year countywide)

Violating Condition 3
o Building footprints as well as parking lots (establishing policy to limit footprints)
o Water wash-out of perimeter fence – erosion
o Take adjacent land out of agriculture use and restore to grassland
o Fish are harvested for food for animals (zoo)
o Decreased air quality from emissions of fossil fuels (all) (I)
o Generate waste to landfills
o Use of paper and forest products
o Sprawl
o Building footprints (sprawling buildings)
o Adding to landfill waste because we're not recycling everything

Sustainability Principle / System Condition #4
In a sustainable society, people are not subject to conditions that systematically undermine their capacity to meet their needs.

Meeting Condition 4
- Living wage ordinance – fair income policy
- Public Safety – DCSD, DA/COC
- Human Services
- Natural resources
- The zoo is free
- Conservation and education programs at the zoo
- Access to transportation for business and leisure (airport)
- Recreation and leisure (zoo)
- Safety and security for the community (sheriff's department)
- Provide jobs in the community (airport/zoo)
- 600,000 visitors at zoo for educational and recreational needs
- Environmental stewardship (county helping people to enhance stewardship--it's a big umbrella
- Poverty prevention and substance abuse prevention programs

Violating Condition 4
- Persons in Dane Co. w/o health insurance – no $/resources
- Lack of good mass transit options to visit places (zoo/airport)
- Limited operations hours for recreational use (zoo/airport)
- 21 buses a day to airport (total ridership only 11 people)
- Contraction of community resources (fed, state. etc)
- Less $ for libraries, schools, and other opportunities for people to meet their needs
- Lack of state and federal resources
- Poverty

APPENDIX C
Dane County Sustainable Practices Staff Team
Training Workshop #1 -- 12 June 2008

A SUSTAINABILITY UMBRELLA FOR ALL

The City of Madison uses The Natural Step Framework to bring the municipal government and community grassroots groups together in support of a common change initiative.

Madison is the state capital of Wisconsin. With just over 200,000 residents, it is the second largest city in Wisconsin after Milwaukee. It is also home of the University of Wisconsin, which may account for the fact that Madison boasts the highest number of Ph.D.s per capita and the third highest number of college graduates per capita of all cities in the United States. It is also a very green community in an environmentally-conscious state. In 2006, after California announced plans to reduce greenhouse gas emissions by 25 percent, Wisconsin State Representative Spencer Black (D-Madison) immediately introduced legislation that would impose similar caps for Wisconsin.

Like many other cities in the United States, Madison is facing tremendous growth pressures, and its municipal government recognizes the need to deliver innovative services in order to secure a prosperous long-term future for its citizens. The City of Madison is charged with planning for development and managing waste, water, energy, and transportation systems, all of which are fundamental to long-term sustainability.

Within the global context of rapid population growth and sharply rising demand for resources and ecosystem services, Madison – like other urban centres – faces several challenges. Energy, insurance and policing costs are all rising. And the social fabric of the community is under strain because of increasing demands for social services and mounting concerns about meeting diverse community needs, which are overwhelming the informal support networks in families and neighborhoods. In response, City of Madison staff – comprising 2,700 full-time and 300-500 seasonal employees – are seeking new ways to deliver municipal services and the municipal government is revitalizing its vision for social well-being. Committed to creating a better place to live, work and play, the municipality has taken the position that "local government officials must reinvent institutions to help communities and residents stay healthy and whole".[1]

As might be expected in a city with a university and a highly educated public, Madison's residents are highly engaged in community affairs. Independent grassroots organizations abound, collectively championing a wide variety of causes and providing a steady stream of guest speakers and public events to inspire the community with new ideas. In fact, there has been so much going on in the community in recent years that the municipal government identified the need for a common umbrella under which all of the existing community assets, incorporating all of its considerable energy and expertise, could come together and focus on a major change initiative.

[1] From *Toward a Sustainable Community: A Toolkit for Local Government* p.3, UW Extension publication number 625.SG.0701, January 2007.

For complete case study visit http://www.naturalstep.ca/documents Madison_TNScasestudy.pdf

APPENDIX D

Dane County Sustainable Practices Staff Team
Training Workshop #2 -- 10 July 2008

Human Needs Presentation and Exercise

Human Needs Exercise 1

Dane County July 10, 2008

What needs are met by various county services

(Looking back at p. 5 may help stimulate thinking.)

Well met

Met

Slightly met

County service	What needs are at least partially satisfied
	Subsistence Protection Affection Understanding Participation Idleness Creation Identity Freedom
	Subsistence Protection Affection Understanding Participation Idleness Creation Identity Freedom
	Subsistence Protection Affection Understanding Participation Idleness Creation Identity Freedom

Why would it be good to have each service meet as many needs as possible?

1

Human Needs Exercise 2
How could you tweak a county service to meet more needs?

(Looking back at p. 5 may help stimulate thinking.)

County service	Tweaks	Needs satisfied
		Subsistence Protection Affection Understanding Participation Idleness Creation Identity Freedom

Insights/ learnings:

2

The Natural Step's 4th System Condition
Based on the findings of Manfred Max-Neef,
an international leader in Human Scale Development
July 10, 2008

The first three System Conditions:
SC 1: In a sustainable society, nature is not subject to systematically increasing concentrations of substances extracted from the Earth's crust.
SC 2: In a sustainable society, nature is not subject to systematically increasing concentrations of artificial substances produced by society.
SC 3: In a sustainable society, nature is not subject to systematically increasing degradation by physical means.

The 4th System Condition is a bit more elusive and has been stated several different ways:

(a) **In a sustainable society people are not subject to conditions that systematically undermine their capacity to meet their needs.** (The current TNS recommended statement.)

(b) **Meet human needs fairly and efficiently.** (American Planning Association.)

(c) **Meet the hierarchy of present and future human needs fairly and efficiently.**

(d) **Are the choices I make fair and equitable?**

(e) **Human needs are met worldwide.**

⇒ **Just what is this 4th system condition really all about and, how do we go about meeting it – practically speaking?**

1

Examples of county services:

- Erosion control and stormwater management
- Zoning
- Libraries
- Fire protection
- Child protection services
- Public health
- Henry Vilas Zoo
- Dane County parks
- Road maintenance
- Small Claims Court
-
-
-

What human needs does each of these help satisfy?

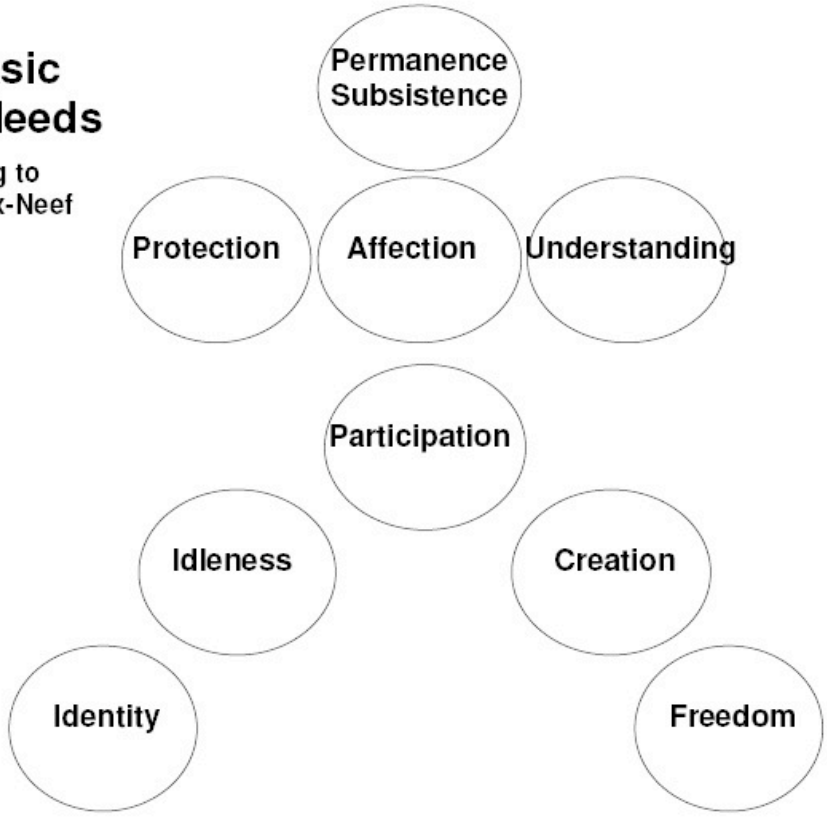
Hmmm. Just what are the human needs?

This could be an overwhelming task – just to decide <u>what the human needs are</u>!

2

The Basic Human Needs

According to
Manfred Max-Neef



3

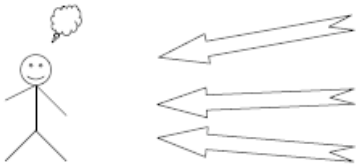
Needs vs. Satisfiers

Satisfiers are not needs.
Satisfiers are ways of getting needs met.

Need: Subsistence — **Satisfiers**

- Food
- Shelter

Need: Understanding — **Satisfiers**



- Curiosity
- Literature
- Teachers

4

Needs and satisfiers

Needs	Being (Qualities)	Having (Things)	Doing (Actions)	Interacting (Settings)
Subsistence	Physical, emotional and mental health	Food, shelter, work	Work, feed, procreate, clothe, rest/ sleep	Living, environment, social setting
Protection	Care, adaptability, autonomy	Social security, health systems, rights, family, work	Cooperate, plan, prevent, help, cure, take care of	Living space, social environment, dwelling
Affection	Respect, tolerance, sense of humor, generosity, sensuality	Friendships, family, relationships with nature	Share, take care of, make love, express emotions	Privacy, intimate, spaces of togetherness
Understanding	Critical capacity, receptivity, curiosity, intuition	Literature, teachers, educational and communication policies	Analyze, study, meditate, investigate	Schools, families, universities, communities
Participation	Adaptability, receptivity, dedication, sense of humor	Responsibilities, duties, work, rights, privileges	Cooperate, propose, dissent, express opinions	Associations, parties, churches, neighborhoods
Idleness	Imagination, curiosity, tranquility, spontaneity	Games, parties, spectacles, clubs, peace of mind	Day dream, play, remember, relax, have fun	Landscapes, intimate spaces, places to be alone, free time
Creation	Imagination, boldness, curiosity, inventive, autonomy, determination	Skills, work, abilities, method, techniques	Invent, build, design, work, compose, interpret	Spaces for expression, workshops, audiences, cultural groups
Identity	Sense of belonging, self esteem, consistency	Symbols language, religion, values, work, customs, norms, habits, historical memory	Get to know oneself, recognize oneself	Places one belongs to, everyday settings, maturation stages
Freedom	Autonomy, passion, self esteem, open mindedness, tolerance	Equal rights	Dissent, choose, run risks, develop awareness, be different from, disobey	Temporal/ spatial plasticity, (anywhere)

Source: *Human Scale Development: Conception, Application and Further Reflections*, Manfred A. Max-Neef and other contributors, Apex Press, New York, 1991.

5

Some questions:

- What needs are met by various county services?
- Why would it be good to have each service meet as many needs as possible?
- How could you tweak a service to help it meet more needs?

Max-Neef distinguishes among five different types of satisfiers

- **Violators or destroyers**
- **Pseudo satisfiers**
- **Inhibiting satisfiers**
- **Singular satisfiers**

Satisfier	Need that it satisfies
Programs to provide food and housing	Subsistence
Curative medicine	Subsistence
Ballot	Participation
Sports	Leisure
Gifts	Affection

- **Synergistic satisfiers**

Satisfier	Need	Also contribute to the satisfaction of these other needs
Breast feeding	Subsistence	Protection, affection, identity
Preventive medicine	Protection	Understanding, participation, subsistence
Direct democracy	Participation	Protection, understanding, identity, freedom
Popular education	Understanding	Protection, participation, creation, identity, freedom

6

Summary
Of
Max-Neef's findings on human needs

- **Needs** are few in number and are the same across cultures and over time.
- **Satisfiers** are not **needs** – they are the way a need is met.
- **Satisfiers** do change over time and across cultures.
  In fact, the way needs are met helps define a culture.
- **Needs** are not exchangeable – increasing the amount of satisfiers for one need does nothing to help satisfy another need.
- The only **need** that **requires material means** to be satisfied is **subsistence**.
- It is thus completely possible to **improve our quality of life** while **consuming significantly less material resources – to have more satisfaction with less stuff.**
  It's not the materials and energy that provide satisfaction, but the degree to which basic needs are met.
- However, **any need that is not met** leads to a human **poverty** – and each poverty generates pathologies that lead to other problems.
- If every county service is refined to meet multiple constituent needs, the county can do a better, more cost effective, more ecologically appropriate job for all constituents.
- Sustainable development is possible only if we prove capable of simulating the ongoing development of ***synergistic satisfiers***.
  Our goal must thus be to help residents, businesses and county leaders and staff enhance their ability to foster the ongoing development of *synergistic satisfiers* each of which helps satisfy multiple constituent needs.

7

Follow-up work to deepen your understanding of the 4th System Condition

Exercise A – apply the nine human needs to your own life

Think about the nine human needs and how they apply in your own life:

- Do these needs resonate with you?
- Which needs are being well met?
- Which could use some attention?
- What insights about your needs and those of others have you gained that might be helpful in your life? In your work?

Exercise B – applying the nine human needs to your job

- What products or services do you/ your agency provide?
- What customer/ constituent needs are well met by what you provide?
- Are there ways you could modify/ tweak your products or services so they do a better job of meeting multiple customer/ constituent needs?

Exercise C – applying the nine human needs to the world around you

- What products or services in the world around you seem to be good synergistic satisfiers – meeting multiple needs?
- Which products or services help individuals develop their own ability to develop synergistic satisfiers? (Example: a study course where participants meet weekly to learn how to eat more locally – helping satisfy the needs of subsistence, participation, understanding, …
- Do you see examples of Pseudo Satisfiers? (Examples: Fashion and fads that seemingly satisfy the need for Identity; product purchases that seemingly will promote affection or protection)

APPENDIX E

Dane County Sustainable Practices Staff Team
Training Workshop #2 -- 10 July 2008

Department-wide Sustainable Initiatives Inventory Results

Dane County Sustainability Inventory Letter
June 24, 2008
In February 2008, the Dane County Board of Supervisors approved Resolution 210, 07-08: Dane County Researches Sustainable Practices in its Operations, Management and Policymaking. This resolution calls for the creation of a county staff team to begin the planning necessary to develop recommendations for implementing more sustainable practices in Dane County.

As an initial step, the staff team is developing an inventory of all the good things already going on in the county. We are asking for your help in this important endeavor. We are asking you to take a few minutes to help us answer the questions listed below – and please return the survey to Bonnie Hammersley by Monday morning, June 30th. If you have already completed some portion of this exercise, please attach the inventory you have created.

Examples of items to list in the inventory may include: conserving land and water resources, using renewable materials, composting, recycling, reducing demand for energy, using renewable energy, favoring compact mixed-use development over sprawl development, providing transportation systems and vehicles that minimize or eliminate fossil fuel use, agricultural practices that minimize the use of petrochemical fertilizers and herbicides, reducing or eliminating toxic building materials in construction, using alternatives to chemical pesticides and herbicides for landscaping, park maintenance and agriculture, using healthy cleaning products, eliminating hazardous materials in industrial processes – and anything else you can think of.

Your Name (required):
Department (required):

Please list operating policies, procedures, or controls in your department intended to advance the principles of sustainability. Also, indicate the direct benefits of the policy and any identified cost reductions that you know of associated with the policy.

Please list any capital projects or equipment/machinery purchases your department has completed or budgeted intended to advance the principles of sustainability. Again don't be too concerned if you don't know the precise Cost Reduction.

Please list any employee or employment policies your department has implemented intended to advance the principles of sustainability.

Please list any public outreach or programs that directly serve citizens that are intended to advance the principles of sustainability.

Thank you very much!

Inventory Results:

Public Works

- Salt brine production
- Salt brine application on plows
- Alternate fuels: Ethanol, Biodiesel
- Diesel part reduction mufflers demo
- Purchase new equipment with newer technology / Reduced emissions
- Idle reduction policy
- Clean Air Action Days
- Four 10-hour days
- Route optimization
- Tracking of salt use and sand use in winter
- Road construction reclamation / Rubblization, pulverizing and reuse of road materials
- Green Building Policy and Implementation
- Construction material handling and recycling
- Pursuit of LEED standards
- Facility energy audits
- Lighting: Indirect, Re-lamping project
- Certified Energy Manager on staff
- Building Design, New Construction, Reconstruction
- Building controls, occupancy sensors
- Energy efficient HVAC, mechanical, plumbing, electrical, equipment speed, installed, training on new construction
- Landfill Gas (LFG) to Energy Project
- LFG to Pipeline Project
- Electric hybrid fleet (5 vehicles)
- Biodiesel utilization
- Material recycling
- LFG biofilters
- Wetland Restoration Project
- Manure Digester Project
- Landfill Bioreactor Project
- Compressed Natural Gas as a Transportation Fuel Project
- Composting Project -- Clean Sweep Facility
- Waste Oil Collection Program
- Waste minimization, diversion, reuse Ethic

- Needles disposal program
- Mercury Recycling Program
- Fluorescent Bulb Recycling
- Compact fluorescent efforts

Land and Water Conservation Department
- Erosion control/stormwater management stands - infiltration
- Native plantings on streambank restoration
- Replacement of low-efficiency devices with high energy savings
- Replace CRT's with LCD monitors
- Working lands lease program
- Blue Bikes program
- Purchased Bio Fuel compatible mowers
- New hybrid vehicle (Prius)
- Bike trail connections to county parks, and other locations
- Electric vehicle acquisition (2009)
- Modified work week (4-10s or 5,4 - 9)
- "Going Green in LWRD" segment in LWRD newsletter
- Portable net stations for inspection and enforcement
- "Full day in field" policy
- "Double sided" paper/ electronic presentations
- Hire local residents to open/close facilities
- Community manure facility
- Nutrient management planning and funding
- Conservation planning, technical service and c/s $
- Conservation Fund and Land and Water Legacy Fund
- Lewis Lunney Park Development and Maintenance
- Plant Dane Program

Planning and Development Department
- Continually expanding department web services and products
- Decreasing need to make vehicle trip(s) into Central Business District
- 'Dane County Surveyor's Office' online subscription service for access to electronic copies of certified surveys, subdivision plats, and other surveys of record
- Acquisition of enhanced and integrated permit tracking, property listing, tax assessment, and Treasurer's collection system
- Online zoning permit application system
- Mobile zoning field offices pilot
- Scanning/electronic imaging and indexing of all office files
- Looking at alternative fuel vehicle(s) for next inspection field vehicle purchase
- Varying flexible hours/schedules for all employees
- Transportation Demand Management (TDM), reducing peak-hour(s) Vehicle Miles Travelled, etc.

- Informal institutional support within the department among employees for alternative transportation modes to work, primarily bikes and buses; we have a relatively high rate of alternative commuting within the department (about 1/3 of employees)
- 'BUILD' (Better Urban Infill and Design) Grant Program
- *Dane County Comprehensive Plan* policies and recommendations spanning all elements of the plan relating to many aspects of sustainability
- Special studies (e.g. Waterbody Classification Study, North Mendota Parkway studies and intergovernmental agreements, etc.) promoting environmental protection, agricultural preservation, efficient development patterns, and alternative modes of transportation

Henry Vilas Zoo
- Recycle waste
- Compost organic waste
- Conserve energy
- Conserve Water
- Use energy efficient life support systems
- Collect rain water
- Replace Aviary roof and heat system
- Additional building insulation
- Use internet to do animal husbandry research
- Conservation Education Programs

Health and Human Services
- Shredding & recycling across all divisions
- Repairs, grounds and building maintenance are done with consideration for the environment
- Utilize web-based applications and computerized forms to minimize paper usage and reduce fuel consumption by reducing number of trips
- Provide bicycle racks to encourage bicycle usage
- New BPHCC facility planned to be a "green" building
- Retrofitted energy-efficient lighting at BPHCC; light motion sensors installed; increased efficiency of HVAC system with installation of Metsys Control System
- Flexible scheduling of work hours
- Consolidated staff through closing Cross Plains office – more efficiencies, better use of staff
- Provision of technology to staff to work more efficiently, i.e., cell phones, home computer access
- RFP preference given to companies that use fuel efficient or alternate fuel vehicles to provide transportation to clients
- Coordinate routes to maximize public & private transportation usage
- More use of mass transit to transport MA clients
- Annual locally grown food day at Senior Nutrition Sites
- Sound Response uses monitoring devices to supplement direct staff support
- Crisis response services designed to prevent or shorten stays in hospitals or restrictive settings
- Nursing home relocations to the community and diversion

- Maximize revenues from a variety of sources to be able to continue providing quality services
- FOCUS corrections diversion program to serve youth in the community
- Expansion of reunification unit to lessen amount of time the child is in out-of-home placement
- JFF and CCF programs divert families from formal systems and keep children in the community

Dane County Airport

- Airfield: When the Air Traffic Control Tower at the Airport is closed (from 11:00 p.m. until 6:00 a.m.), the airfield lighting is on pilot control. This means the lighting in only on when activated by pilots. This reduces energy usage and extends the life cycle of lighting components.
- Airfield: The Airport has converted to using potassium acetate for runway deicing. Potassium acetate has environmentally friendly biodegradation qualities lessening the impacts on water quality. Toxicity tests rate potassium acetate "relatively harmless" to aquatic life, the most favorable classification used by the environmental community. The fluid does not contain ammonia or nitrogen; therefore, potassium acetate is considered much safer for the environment than glycol or urea.
- Airfield: Sand is also used, sometimes in conjunction with potassium acetate, to maintain braking action on the runways. This reduces the amount of potassium acetate needed, and is environmentally safer than other options of glycol or urea.
- Airfield: Waste oil and petroleum products are collected at the airfield maintenance shop for recycling using a licensed, local vendor.
- Terminal Complex: The Airport monitors NO2 and CO2 daily to maintain air quality within the baggage tunnels and baggage makeup areas.
- Terminal Complex: The terminal maintenance staff converted to using organic, citrus based, less toxic solvents for most cleaning purposes.
- Terminal Complex: The airport collects and recycles its fluorescent, metal halide, and high-pressure sodium lamps and lighting ballasts, using an approved vendor under State of Wisconsin cooperative purchasing contract.
- Terminal Complex: The terminal expansion project, completed in 2006, specified mandatory on-site construction waste recycling containers and a landfill diversion program.
- Terminal Complex: The Dane County Regional Airport has operated a recycling program for 17 years, for the waste generated from passengers and tenant activities in the terminal. Cardboard, paper, plastic, metal, and glass materials account for the majority of recycled products. With the recent terminal expansion project the loading dock facilities were relocated and expanded to increase the size and ease of use of recycling compactors and dumpsters. The Airport, which thrives through partnerships with passengers, airlines, and tenants, diverted over 46 tons of material from landfills through recycling in 2007 alone.
- Airport Maintenance Division: The Airport vehicle fleet is on a preventive maintenance program to maximize the efficiency of the vehicles.
- Airport Maintenance Division: The Airport vehicle fleet is maintained with biodegradable soaps and wax.

- Airport Maintenance Division: For air quality purposes, the Airport uses ultra-low sulfur diesel fuel to reduce emissions.
- Airport Maintenance Division: The Airport has purchased vehicle tires that contain Kevlar, which increases the life of the tire and reduces the number of tires that require recycling.
- Airport Administration: The Airport uses Surplus With a Purpose (SWAP), to increase the amount of surplus products recycled.
- Airport Administration: Recycling surplus airport property is also accomplished through private and government auctions.
- Airfield: The Airport uses water based paints on all airfield surfaces. Water is used for clean-up instead of toxic solvents.
- Airfield: The Airport is currently testing the feasibility of LED airfield lighting fixtures. LED lighting requires less energy.
- Airfield: Glycol detention pond is used to contain the seasonal storm water from the deicing of aircraft for aeration pretreatment prior to the water being released for sanitary treatment. It is the first of its kind in Wisconsin.
- Airfield: In 2007, as part of the security fencing improvement project, the Airport has installed a barrier membrane under the new fence to prevent vegetation growth and to facilitate mowing along the fence line. The use of the membrane will help lessen the use of herbicides in these areas.
- Airfield: In 2002, the airport beacon was replaced. The old beacon was a 400-wt-mercury bulb. The new beacon has an energy efficient high-pressure sodium bulb.
- Airfield: Airfield lighting components that use the old incandescent bulbs are being replaced with new quartz fixtures and bulbs. The more efficient quartz bulbs last twice as long as the old incandescent lights.
- Airfield: A system of hanging chains has been placed over the openings of culverts on the airfield to deter swallows from nesting inside the structures and causing a hazard to aviation when the birds feed outside the culverts. The USDA-Wildlife Services endorses this non-lethal habitat management.
- Airfield: The runway 18/36 reconstruction in 2000, was accomplished with recycling 100% of the old runway material.
- Terminal Complex: The Airport terminal lighting and HVAC systems operate by a Metasys automated computer system, which increases energy efficiencies through building zone scheduling.
- Terminal Complex: The new tollhouse, currently under construction, will be a LEED silver certified building.
- Terminal Complex: The Airport planted self-sustaining landscape plants throughout the terminal complex.
- Terminal Complex: Materials used in the terminal expansion project, completed in 2006, included sand, gravel, block, brick, and glass that were acquired through regional resources. The purchasing of local materials decreases the transportation carbon footprint of the materials.
- Terminal Complex: The terminal expansion project incorporated detachable, recyclable building assembly systems. These systems allow for future expansion while minimizing remodel costs.

- Terminal Complex: Windows specified in the terminal expansion project incorporated natural daytime lighting with sun control/shading devices and are low-E, fritted, tinted non-reflective glazing.
- Terminal Complex: The Airport utilizes programmed lighting to save energy during nighttime hours.
- Terminal Complex: As part of the terminal expansion project, the Airport constructed a chiller plant for the HVAC system. The chiller plant is for air conditioning, which includes an ice building system that generates ice during electrical off-peak hours. The ice is used to cool the terminal during the daytime, allowing the airport HVAC to remain off the power grid during peak electrical hours.
- Terminal Complex: The airport terminal roof is an Energy Star top rated Class A white membrane, constructed of 100% recyclable materials. The energy efficient membrane is attached with mechanical fasteners, which reduces the need for toxic chemical adhesives.
- Terminal Complex: Acoustic ceiling tiles used throughout the terminal are manufactured from recycled soda bottles.
- Terminal Complex: Non-toxic wood preservative treatments, used on all treated wood framing applications, were used during the terminal expansion project.
- Terminal Complex: Low water consumption restroom fixtures with automatic shut offs were installed throughout the terminal as part of the terminal expansion project.
- Terminal Complex: Longer lasting and lower maintenance granite, tile, and stainless steel were utilized in the terminal expansion project. The high quality products minimize the need for additional maintenance and cost of premature product replacement.
- Terminal Complex: Energy efficient LED emergency lighting and signage are installed throughout the terminal complex.
- Terminal Complex: Efficient double door entryways to the terminal reduce energy costs due to direct air loss.
- Terminal Complex: Occupancy sensors have been installed as part of the terminal expansion project to increase energy savings by shutting off room lighting when there is no movement detected by sensors in the area.
- Terminal Complex: Incorporation of Xeriscape Landscaping including the utilization of timer controlled vegetation-watering system to provide maximum plant retention and reduce evaporation loss.
- Terminal Complex: The Airport has retrofitted eleven aircraft boarding bridges to 400 HZ power. This allows the aircraft parked at the gate to be plugged in and operate their electrical and HVAC systems without running their engines. This results in less noise, reduced CO2 emissions, and increased fuel savings by the airlines.
- Terminal Complex: Structural steel used in the terminal expansion project is domestically fabricated with recycled content.
- Terminal Complex: New building designs are required to meet LEED standards. One LEED-silver building is currently under construction
- Wetland Mitigation Project: The runway 14 safety area project, completed in 2006, received the ACI-NA Environmental Achievement Award for Mitigation in 2007, and the FAA Great Lakes Region Outstanding Achievement Award for Environmental Stewardship in the fall of

2006. There are many sustainable initiatives that resulted from this project. The Airport coordinated with numerous local, state, and federal agencies to mitigate 53 acres of wetlands, 1.2 miles of Starkweather Creek, placed 26 acres of cropland into deep-rooted native vegetation to reduce runoff and pollutants from entering Cherokee Marsh, restored fen hydrology, and used native source seeds to restore nearly 100 acres of fen (now one of the largest fens in Wisconsin). The project also included the planting of trees along the relocated railroad to provide a green buffer between the terminal complex and the trailer park to the west of the terminal. The new planting provides both audible and visual buffers for the Airport's neighbors.

- Airfield: Two members of the airport maintenance staff are licensed applicators, and their training & experience is used to ensure best management practices are followed when applying chemicals in the unlikely event of unsafe vegetation growth at the airport.
- Airport Administration: The Airport endorses the use of email to reduce the amount of paper used.
- Airport Administration: Office paper recycling bins are placed at every desk; fax machine, and copy machine to maximize the amount of material that is recycled.
- Airport Administration: An automatic power-down feature is used on all photocopiers, fax machines, and computers aiding in the reduction of electrical energy used.
- Truax Air Parks: Enhancing the quality of life for local residents and providing additional green spaces has been accomplished through the development of the Bridges Golf Course. The development of the golf course was a compatible land use noted in the FAR Part 150 Noise Compatibility Program.
- Truax Air Park: The Airport provided land to permit a bike path linking the East Washington corridor to MATC.
- Airport Property: The Airport leases agricultural lands to farmers while maintaining compatible land use and open spaces around the airport.
- Airport Property: The Airport maintains a grassland buffer in the runway 21 approach to reduce erosion from agricultural lands onto the airfield from rain runoff.
- Airport Administration: The Airport conducts a meeting in the spring and in the fall with airport users and the public to address noise concerns. The Airport works with the FAA, military, and airport users to minimize the impact of noise on the surrounding communities on a daily basis.

Department of Administration

- Green Cleaning Products – Facilities Management
- Day Cleaning – Facilities Management
- Clean Air Action Day participation – reduce lighting, cooling load, travel
- CCB Remodel – Recycle materials (demolition), energy efficient equipment (AHUs, occupancy sensors), recycled carpet backing, window replacement
- Courthouse Construction - Recycle materials (demolition), efficient windows, roof garden, energy efficient equipment (AHUs, chiller, occupancy sensors), recycled carpet backing, low VOC paint
- Lighting Upgrades – CCB, PSB

- Upgraded Building Control System - Automatically monitors and regulates HVAC for performance and use
- Replace CCB Chiller - Higher efficiency; one unit replaced two less efficient units that used outdated Freon
- Window Replacements – CCB and Juvenile Shelter to improve efficiency and employee comfort
- Employee Options Commuting Program - Provides commuting options for employees; reduces road miles
- Allow 10-hour days
- Telecommuting
- Employee Education – Energy Use
- Use of Locally Grown Food at CFS

Inventory responses were not submitted by Alliant Energy Center or Dane County Sheriff's Department.

APPENDIX F

Dane County Sustainable Practices Staff Team
Workshop #2 -- 10 July 2008

Baseline-Compelling Vision/ Systems Impact Exercise Results

Sector: ***Cultural, Recreational & Educational***	
Initiative #1	Organic Waste Composting (collecting and composting food, feed, animal and other organic "wastes" that currently go into the county landfill)
System Conditions Affected	1: Reducing fossil fuel use by capturing methane for energy; reducing transportation impacts (less tracking to landfill) 2: Less concentration of emissions from fossil fuels (b/c of less trucking to landfill); reducing need for synthetic fertilizers by offering alternative 3: Reduces landfill space needed; improves water quality 4: Provide organic fertilizer for community gardening/food growing needs

Sector: ***Cultural, Recreational & Educational***	
How does this initiative affect your sector?	**Sector: *Cultural, Recreational & Educational*** - Provides public education opportunity to demonstrate sustainability principles - Could generate funding for sector through selling finished compost to community - Improves water quality by reducing synthetic fertilizer use (and possible run-off) - Staffing impacts? Not sure if any new staff would be needed (could be neutral--staff that currently hauls to landfill) - **Sector: *Public Works*** - Extends landfill life - Contributes to meeting the county's goal of 20% renewables - **Sector: *Human Services*** - Reduces waste and landfilling at Badger Prairie medical facility - Improves efficiency at community gardens (either by providing an income source or helping them to save money on fertilizers) - If it improves water quality, then it improves health - Could be used to educate general public about benefits of composting and lead to change to more sustainable public behavior (e.g.: "the county did this and reduced waste by X tons and saved X money") - **Sector: *Public Safety*** - If it reduces economic stress through assisting with residents' food growing, then, it could reduce stress on system - Reduces cost of transport and energy/ offsets spending for any sectors that compost instead of landfill - Could improve traffic safety if it reduces truck traffic on roads to landfill - If the jail is engaged, could be used to build skills of inmates

Sector: ***Cultural, Recreational & Educational***	
What could be done to increase benefit(s) / decrease negative impacts on your sector?	**Sector:** ***Cultural, Recreational & Educational*** - Look into Zoo Foundation financial assistance for program out of zoo - Could set up neighborhood cooperatives (compost co-ops), where a neighborhood pays a fee to help cover operational costs and the the residents receive finished copost for their needs - **Sector:** ***Public Works*** - Could make it county-wide initiative and include CCB food service, lake weeds, etc.) and have distributed compost sites - Create new employment opportunities - **Sector:** ***Health & Human Services*** - Create new employment opportunities (simple skills for developmentally disabled and vocationally challenged residents) - **Sector:** ***Public Safety*** - Create on-site composting at jail (loading dock?) - Use as educational opportunity for inmates, create cottage industry (look into vermicomposting, etc.)

Sector: ***Cultural, Recreational & Educational***	
Initiative #2	General Educational Initiative leading to greater understanding of the county's sustainability vision and the 4 sustainability principles
System Conditions Affected	1,2, 3 & 4 -- Numerous possibilities to improve on all four system conditions
How does this initiative affect your sector?	- **Sector:** ***Public Works*** - Leads to incorporating the sustainability principles/system conditions into bid specifications for the construction process (ex: specs. for recycling, energy efficiency, going from chemical powered energy to people powered energy) - **Sector:** ***Health & Human Services*** - Could lead to more future oriented, innovative approach by county decision makers - **Sector:** ***Public Safety*** - Possibility to increase job skills and thereby reduce recidivism - Could improve actions within the jail that affect all 4 system conditions
What could be done to increase benefit(s) / decrease negative impacts on your sector?	- **Sector:** ***Public Works*** - Expand to all sectors of county - **Sector:** ***Health & Human Services*** - Apply to aging community's efforts and needs to find efficiencies in all systems for more cost effective and sustainable outcomes across the system - **Sector:** ***Public Safety*** - Include sustainability training in educational curriculum of inmates

Sector: ***Public Safety***	
Initiative #1	Electronic Monitoring Program (house arrest)
System Conditions Affected	1: Decreases miles traveled for transport 3: Prevents building of a new facility 4: Allows people to stay home with families, maintain employment, preserves public safety with GIS tracking
How does this initiative affect your sector?	- **Sector: *Public Works*** **-** Less construction required. Frees up capital - **Sector: *Health & Human Services*** - increased service demands on HS. Improves chance of treatment success and ability to be self sufficient. - **Sector: *Cultural, Recreational, Educational*** - Frees up capital that could be used for parks
What could be done to increase benefit(s) / decrease negative impacts on your sector?	- **Sector: *Public Works*** - Could use people on EMP for labor - **Sector: *Health & Human Services*** - Jail could provide follow up medical care to improve mental health services. - Better discharge planning - More collaboration between systems - **Sector: *Cultural, Recreational, and Educational*** - Could use people on EMP as volunteers in the parks.

Sector: ***Public Safety***	
Initiative #2	Purchasing greener vehicles for conveyance purposes
System Conditions Affected	1: Decreases use of fossil fuels, decreases emissions 4: Increases public awareness, sets an example
How does this initiative affect your sector?	- **Sector: *Public Works*** **-** Budget implications - **Sector: *Health & Human Services*** - Sets an example for us - **Sector: *Cultural, Recreational, Educational*** - Shows the need for unified purchasing policy
What could be done to increase benefit(s) / decrease negative impacts on your sector?	- **Sector: *Public Works*** - Volume purchases, uniform specs. - Fleet management support - Bulk fuel purchases - Landfill gas use the methane to fuel county fleet - **Sector: *Health & Human Services*** - Set up a system by which public works manages the entire county fleet - **Sector: *Cultural, Recreational, and Educational*** - None listed

Sector: ***Health and Human Services***	
Initiative #1	Shared transportation for poor and disabled clients (i.e. mass transit, van pools, call and rides)
System Conditions Affected	1: Reduces fuel (+) 2: Reduces materials needed (+) 4: Access to services (+)
How does this initiative affect your sector?	- **Sector:** ***Public Safety*** - Helps inmates get jobs - Improve traffic safety - **Sector:** ***Public Works*** - All park facilities ADA accessible; one specifically (Jenni and Kyle) for disabled; use would increase - **Sector:** ***Cultural, Recreational, Educational*** - Improved access to recreational opportunities - Improved networks to open space
What could be done to increase benefit(s) / decrease negative impacts on your sector?	- **Sector:** ***Public Safety*** - Educating inmates on mass transit options - **Sector:** ***Cultural, Recreational, and Educational*** - Construct more bike paths - Minimize costs of transport by park land near population centers - Sponsor specific events to maximize # attending (in same vehicle)

Sector: ***Health and Human Services***	
Initiative #2	Job center – improve access to services through electronic means and building reorganization
System Conditions Affected	1: Use less energy (+) 2: Uses more computer (-) 4: Helps meet needs better (+) time consuming process (-)
How does this initiative affect your sector?	- **Sector: *Public Safety*** - Improves inmate access to services = decrease crime rate/recidivism - Fewer public disruptions requiring police response - **Sector: *Public Works*** Increase employee pool Provide greater electronic infrastructure Increase electrical power needs - **Sector: *Cultural, Recreational, Educational*** - Greater awareness of other Co. programs (like cultural, etc.) because of improved access - Reduces medical need because of access to recreational opportunities
What could be done to increase benefit(s) / decrease negative impacts on your sector?	- **Sector: *Public Safety*** - Outreach to jail facilities - Step down treatment model that reduces these services as an overall strategy = decreases jail population - **Sector: *Cultural, Recreational, and Educational*** - Direct web link to access other county programs

APPENDIX G

Dane County Sustainable Practices Staff Team
Workshop #3 -- 17 July 2008

ABCD / Backcasting by Department Exercise Results

During Workshop #3, participants performed a backcasting exercise by individual department. The whole group of participants then re-convened and conducted a multi-voting process whereby they were given a limited number of votes and had to prioritize the list across county departments. The following is the entire list of potential actions and initiatives generated in that process. Highlighted items were chosen by the whole group as priority items across departments.

This list could be used to form the basis for the development of a Top Ten list of county sustainability projects (see *Expanded Suggestion Section paragraph C*).

Major Initiatives / Actions:

- Acquire all electric energy from renewable sources, including on-site methods including wind turbines and photovoltaic
- **Green Vehicles: change small vehicle fleet to alternative fuels, e.g., biofuel, hybrid, flex fuel**
- Expand recycling for tenant and construction
- Acquire pre-conditioned air systems without emitting carbon dioxide
- Utilize human and animal waste and crop residues for energy production
- Green (fossil fuel free) and visually natural facilities
- Zero runoff
- Continuous employee training
- Be substantially off the grid by use of alternative fuels; the lower cost incurred would permit more investment in facilities and provide more jobs and economic benefit throughout the community
- Continue to provide flexible jobs and working environments to help employees address their needs
- Buying contracts to drive down costs and encourage use of sustainable inputs (e.g., beet juice, biofuels, etc.)
- **Sustainable Regional Transportation initiative, including facilitating inter-county (regional) transportation assessment/cooperation/vision, establishing sustainable regional transportation system, and transportation demand management**
- Convert landfill to natural gas production
- Train all county employees in sustainability
- Transit overhaul/ Transport 2020
- Reduce inmate population
- Forego need to build

- Generate less waste and use fewer resources (energy, food, etc.)
- Work with partners in county government
- End poverty
- Develop and implement a system of “upstream eligibility”: “Sell” ES workers to clinics, hospitals; ES staff stationed at jail, food pantries, etc. rather than just at Aberg Avenue
- Develop a supportive parenting program
- Increase community involvement in solutions -- donations of money and time; foster parents; mentors
- Add more early intervention services to divert consumers from CPS system
- Hire a grant writer and a volunteer coordinator (Human Services/ CPS)
- Continue ongoing community planning and zoning efforts but integrate sustainability concepts more directly
- **Green building construction codes**
- Employee and public sustainability education
- Minimum environmental impact rural design code
- Convert to mostly electronic file management

APPENDIX H

Dane County Sustainable Practices Staff Team
Training Workshop #3 -- 17 July 2008

Whistler Capital Budget Assessment Worksheet

ON THE ROAD TO SUSTAINABILITY

Unlike many Canadian communities, Whistler, British Columbia has never had to deal with the question of its identity. Located in the Coast Mountains, a two hour drive north of Vancouver, Whistler was conceived as a mountain resort in the 1960s, built as a mountain resort in the 1970s and, to no one's surprise, thrives today as a world-famous, four-season destination mountain resort. What might come as a surprise is that Whistler is arguably one of the most committed of all Canadian communities to becoming truly sustainable.

In the late 1960s, about 500 people lived in a scattering of houses up and down Whistler Valley. Today, this town of 10,000 permanent residents hosts a seasonal population of about 4,500, another 9,100 second-home owners from around the world, and over two million tourists who flock to Whistler each year to enjoy recreational activities as diverse as skiing, snowboarding, hiking, fishing, mountain biking and golf. Residents – largely comprising people who have made a conscious decision to move to Whistler – share a strong sense of community and a passion for protecting the natural environment.

Whistler's development dates to the early 1960s, when a group of businessmen joined forces with members of the Canadian Olympic Committee to find a site they could develop for a future Olympic Winter Games. Although the Whistler Valley was still wilderness then – there was not even a road into the area – members of the group believed in its potential, rolled up their sleeves and got to work. By the mid 1960s a road had been built into the Valley and the first ski lifts were operating on Whistler Mountain. In a "build-it-and-they-will-come" scenario, people began to move to the Valley, and schools, water and sewage treatment, building codes, medical services, fire protection, recreation complexes, library and postal services followed.

In 1975, the community became Canada's first incorporated Resort Municipality, a legislative designation that grants the local government special consideration to promote, build and maintain infrastructure and services for a large influx of visitors. Three years later work commenced on the building a new town centre, Whistler Village. In 2010, 50 years following its founding vision, Whistler will host the 21st Olympic and Paralympic Winter Games.

http://www.whistler2020.ca/whistler

APPENDIX I

Dane County Sustainable Practices Staff Team
Training Workshop #3 -- 17 July 2008

CITY OF MADISON PROJECT CHARTER
Updated ##/##/## - Version X.X

Project Name	
Executive Sponsor	
Project Coach/Facilitator	
Project Manager	
Primary Stakeholder(s)	
Project Description / Statement of Work	
.	
Business Case / Statement of Need *(Why is this project important now?)*	

Customers	Customer Needs / Requirements

Project Definition	
Project Goals	
Project Scope	
Project Deliverables	
How will progress be measured?	

Does this project move the City towards sustainability?

	SYSTEM CONDITION 1. Reduces dependence upon fossil fuels, extracted underground metals and minerals?	SYSTEM CONDITION 2. Reduces dependence on chemicals and other manufactured substances that can accumulate in Nature?	SYSTEM CONDITION 3. Reduces dependence on activities that harm life-sustaining ecosystems?	SYSTEM CONDITION 4. Reduces dependence on activities that interfere with other people's abilities to meet their basic needs?
Specify how project moves City towards improving or achieving each system condition.				
Identify trade offs involved as relates to each system condition				

Does this project provide a stepping stone towards sustainability?
Does this project provide a sufficient return that the City could use to seed future investments? *(Include fiscal, environmental and social returns)*
Project Constraints / Risks / Key Inputs *(Elements that may restrict or place control over a project, project team, or project action; results from other projects or input from other sources needed for project to be successful)*
Implementation Plan / Milestones *(Due dates and durations)*
Communication Plan *(What needs to be communicated? When is communication needed? To whom? How?)*
Change Management / Issue Management *(What is process for addressing concerns of those impacted? How decisions will be made? How changes will be made?)*

Project Team Roles and Responsibilities		
Team Members	**Roles**	**Responsibilities**

Stakeholder Roles and Responsibilities		
Stakeholders	**Roles**	**Responsibilities**

Sponsor Sign-Off

_____ Date:_____
SIGNATURE

Direct questions about this document to: NAME, DEPARTMENT at TELEPHONE or EMAIL

For related resources see City of Madison Natural Step Website, http://www.ci.madison.wi.us/mayor/tns/index.cfm

APPENDIX J

Dane County Sustainable Practices Staff Team
Training Workshop #3 -- 17 July 2008

D-Step, Prioritizing Actions Worksheet Exercise Results

Prioritizing Actions Worksheet -- D-Step Exercise

Group members: Whole Group

Please summarize the action or initiative in a few sentences:
Green County Fleet: Conversion of county vehicles to biodiesel, hybrid, and other alternative fuels.

Run your initiatives through the three strategic questions below. Be as specific as possible.

1) Does this initiative move us towards sustainability?

	SC#1	SC#2	SC#3	SC#4
Improve?	decrease use of fossil fuels, less air pollution from tail pipe emissions, and processing of fossil fuels	reduces synthetic additives in processing of petroleum	creates less mercury pollution of water from vehicle emissions, reduces impact of harmful mining practices	improves public health through better air quality, economic growth opportunities with new technologies that can bring jobs

	SC#1	SC#2	SC#3	SC#4
Trade-off?	doesn't decrease the demand for cars with material use needs - large manufacturing input; if electric vehicles, a major current source of electric in WI/Dane County is coal		still using single occupancy vehicles, which may encourage sprawl, and there are unknown technical impacts downstream	potential increased cost (initial investment?) and opportunity cost of money that could be spent elsewhere

2) Does this initiative provide a stepping-stone toward sustainability? How?

Would need to do more detailed research into technologies to answer this question satisfactorily. After reviewing trends and doing more research you may find that you have to choose a starting point that is flexible and provides the most bang for your buck (i.e., converting on ly the “dirtiest” and most inefficient fleet vehicles, phasing conversion to leave it open to advances in technology, etc.

3) Does this initiative provide a sufficient return to seed future investments? How?
Yes. Gas prices continue to rise and you can take fuel savings and apply them toward other new sustainability initiatives (or further implementation of this one).

APPENDIX K

Dane County Sustainable Practices Staff Team
Training Workshop #3 -- 17 July 2008

Immediate Action Items Results (a.k.a. "Low-hanging fruit)

- Get all county vehicles to adequately and regularly inflate their tires (this could save up to 3% of fuel)
- Reduce boiler temperatures, turn off boilers at night so that they don't go onto standby and use unnecessary energy
- Increase room temperatures by turning up the cool setting to a warmer temperature by several degrees
- Disconnect lights that are unnecessary and take the bulbs out of those fixtures (if you leave the bulbs in the sockets they may still use energy)
- Turn off computer monitors at night
- Join ICLEI to develop baseline data on county operations
- Promote more sustainable transportation options to county employees
- Integrate all facility control systems, standardize set points, monitor HVAC
- Replace DOA pool vehicles with alternative / fuel-efficient vehicles
- Retrofit diesel vehicles with state grant money
- Pilot bio-diesel use in Highway Department
- Back scanning paper records to eliminate need for additional storage space
- Promote more electronic document management/electronic filing and indexing to lessen paper demands.
- Purchase fuel-efficient vehicles when next replacing fleet vehicles.
- Continue transportation demand management practices (TDM), like providing Metro transit passes and flexible scheduling for employees.

APPENDIX L

Partial List of U.S. Municipalities with Full-time Sustainability Coordinators or Departments

- Alameda County, CA
- Albany, CA
- Albuquerque, NM
- Baltimore, MD
- Clackamas County, OR
- Cleveland, OH
- Denver, CO
- Eugene, Oregon
- Flagstaff, AZ
- Long Beach, CA
- Madison, WI
- Milwaukee, WI
- Minneapolis, MN
- New York City, NY
- Oakland, CA
- Palo Alto, CA
- Pasadena, CA
- Plano, TX
- Portland, OR
- Santa Barbara, CA
- Santa Monica, CA
- Seattle, WA
- Spokane, WA
- Tucson, AZ
- Vancouver, WA

ADDITIONAL RESOURCES/ REFERENCES

- Robèrt, K-H. 2006. Strategic Leadership Towards Sustainability, Blekinge Institute of Technology in cooperation with The Natural Step.

- The Natural Step Canada, www.naturalstep.ca

- City of Madison Natural Step Website, http://www.ci.madison.wi.us/mayor/tns/index.cfm

- Sustainability Toolkit for Local Governments – Download at: http://www3.uwm.edu/Dept/shwec/publications/cabinet/reductionreuse/SustainabilityToolkit.pdf

- Step by Natural Step and Sustainability 101 E-learning courses available by contacting Sustain Dane

- Policy Guide for Planning for Sustainability developed by the American Planning Association available at http://www.planning.org/policyguides/sustainability.htm

- Community Analysis and Planning Division, Dane County Department of Planning and Development, 11.2007. Regional Trends 2006. http://danedocs.countyofdane.com/webdocs"

- Alberta Urban Municipalities Association MSP guidebook is a step by step guide for municipalities on how to create an integrated municipal sustainability plan http://www.thenaturalstep.ca/documents/MSP_CompleteGuidebook_June06.pdf