



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.

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FOCUS ON SUSTAINABILITY

In 2004, Sustain Dane hosted Torbjorn Lahti and Sarah James, authors of the book, *The Natural Step for Communities* in the Madison area. In their public presentations, over 450 community members attended to learn about the eco-municipality approach of sustainable communities in Sweden. Then in early 2005, the Madison Sustainable Design and Energy municipal task force completed its study of the emerging complex of issues, summarized in *Blueprint for a Green Capital City*. One of the key Blueprint recommendations was that the City government proceed to adopt a framework for sustainability that would foster coordination among Madison's emerging sustainability efforts. The recommendation represented a major breakthrough (described as an "AHA!" moment) in the city's thinking. By using a common framework, the city could weave a number of diverse planning strands together, better aligning the actions of different city departments and agencies while still allowing them to work independently.

Adopting the recommendation, the city chose The Natural Step (TNS) as a framework for sustainability planning, citing not only its science-based underpinnings but its systems-wide approach to sustainability.

The choice had a political and social advantage as well: many residents in the community were already familiar with The Natural Step through public workshops, study circles and presentations offered previously by two non-profit organizations, Sustain Dane and 1000 Friends of Wisconsin. The latter, a state-wide non-profit organization based in Madison that promotes Smart Growth land use and transportation policy planning, had also hosted Natural Step presentations for both the municipal council and the committee responsible for following up on the *Blueprint for a Green Capital City*.

Sustain Dane and 1000 Friends of Wisconsin are co-founders and co-coordinators of the US-based North American Eco-Municipality Network, which also contributed to bringing The Natural Step to Madison. Although still in its infancy, The North American Eco-Municipality Network is modeled after the Swedish eco-municipality effort, and is already providing

substantial support for emerging eco-municipality efforts. (The Natural Step Canada participates in the network, sharing lessons learned from Canadian community adopters of The Natural Step Framework, such as Whistler, Wolfville and Canmore.)

Leadership for the sustainability initiatives was not only strong at the grassroots, but in City Hall as well. The Mayor of Madison, David Cieslewicz, a founder and the first Executive Director of 1000 Friends of Wisconsin, had campaigned on a platform of sustainability, and believed that the city was a leader within Wisconsin. An excerpt from a memo from Mayor Cieslewicz to all department and division heads in 2006 reveals the strength of that commitment.

The City must move toward sustainability. As a service provider, the City of Madison and its operations have a huge impact on the environment.

With over 2,700 employees, it is the eighth biggest employer in Dane County. It maintains over 750 miles of street, occupies over 3.7 million square feet of office and building space, consumes 54 million kWh of electricity and 1.3 million therms of natural gas, hauls almost 60,000 tons of garbage and recycling, maintains 6,000 acres of parks, and burns over 2.3 million gallons of fuel to run its buses and fleet vehicles. It's hard to imagine a single entity in the area that has a bigger impact on the environment than City government. Because the City is both consumer and steward of our environment and its resources, we must incorporate the principles of sustainability to ensure the needs of tomorrow can be met.

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Through The Natural Step workshops and other public learning opportunities, many Madison residents had come to understand the dimensions of the popular term “sustainability” and what it might mean when applied to the community. They knew, for instance, that The Natural Step Framework would allow all stakeholders to come together to identify gaps between the city’s present sustainability performance and what it could be if it were truly sustainable, and then develop new initiatives to begin to bridge those gaps.



MADISON AND THE NATURAL STEP

Based on the recommendation to adopt a framework for sustainability, the City’s Common Council formally adopted the principles of The Natural Step in December 2005. Madison is the first community in Dane county to have done so, and the third of 14 communities (and counting) in Wisconsin. To follow through on its formal commitment, and to engage municipal staff, the City of Madison issued an RFP for training on The Natural Step Framework. TNS Canada responded. Its proposal was accepted, a training program for municipal employees was designed, and an organizational learning path created.

Creating Awareness

In September 2006, a cross-departmental team of 25 senior municipal employees met for two days of in-person training delivered by TNS Canada staff, with support and coordination from Sustain Dane and 1000 Friends of Wisconsin. The support of the two NGOs was a key success factor in creating and maintaining momentum on the ground. The Mayor attended the first day of training to reinforce the importance of the initiative.

The participants prepared for the training by taking the The Natural Step three-hour eLearning course, *Sustainability: Step by Natural Step*. The eLearning module was a cost-effective way to present core concepts to staff, allowing in-person training workshops to get into advanced applications of The Natural Step Framework. Karl van Lith, City of Madison Organizational Development and Training Officer said this about this blended learning approach, “a core strength of *Step by Natural Step* is that participants with varying levels of sustainability exposure are able to use the course in their own way. Those with lower levels of understanding can work on the basics, while more advanced employees can spend time reviewing case studies and linking to source documents. This course was an equalizer in preparing employees for an educated discussion.”

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After reviewing a definition of sustainability and the requirements for a sustainable society, the workshop participants brainstormed actions that would move Madison towards a more sustainable future. As homework, the employees were asked to evaluate their proposed actions against three strategic questions:

- 1) would the action move Madison towards sustainability as defined by the The Natural Step sustainability requirements?
- 2) would the action provide a stepping stone that would permit further steps towards sustainability? and
- 3) would it provide sufficient return on investment to seed further actions towards sustainability?

The Natural Step Canada staff returned in November 2006 to review the strategic actions with the group and deliver the last day of training. Overall, staff learned how to integrate sustainability principles into city planning and decision-making processes.



A team of 25 cross-divisional senior municipal employees learn to use The Natural Step Framework

Baseline Assessment

Throughout the workshop, City of Madison staff identified major areas in which the city's sustainability performance and practices could be improved, notably its transportation systems, building management and organizational culture. Not surprisingly, the city found itself in violation of all four sustainability principles of The Natural Step Framework, but also discovered a number of elements that would support its transition towards sustainability. Its assets included

the position of the Fiscal Efficiency Auditor, through whom the city received advice on how to better manage its resources. As the baseline assessment revealed Madison's real-time sustainability challenges, the workshop participants took advantage of the TNS staff presence to begin working directly on solutions for the City.

Creating A Vision

Rather than creating a new sustainability vision, workshop participants chose to endorse an existing vision. As expressed in the *Blueprint for a Green Capital City*, the vision is "to build a sustainable Madison, Wisconsin, and to be a leading community within Wisconsin". With the definition of sustainability informed by The Natural Step's four sustainability principles, participants were able to begin to develop a strategic step-by-step plan to move towards it.

Down to Action

Of the 35-40 possible actions initially identified by staff at the end of the 2006 TNS training workshop, ten were chosen for implementation on the basis of their strategic value and the feasibility of implementing them.

The Mayor participated in the review of possible projects and shared his comments and, as Madison's Fiscal Efficiency Auditor, Andrew Statz stated, "We wanted to make sure the projects move us forward, not to solutions that would eventually prove to be sustainability dead-ends."

Project leaders and teams, drawn from workshop participants and topic experts within the municipality and the community, were selected for each project. A charter was then created for each project, as well as progress indicators and a tracking system. Each project charter uses the system conditions of The Natural Step to explicitly guide planning for sustainability. The City of Madison has demonstrated their commitment to The Natural Step framework by institutionalizing a process for the way that staff plan for new projects. The Mayor currently meets with each project team every two months to hear progress reports.

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Those most involved with the new sustainability initiative want to implement and report on the projects quickly. Their desire is to get success stories out to other City staff and the public early, generating momentum and enthusiasm for the overall program. Accordingly, a number of innovative projects have already been reported on. One of the projects – called “the big green snake” by some – combined waste reduction with fossil fuel reduction by converting one of the city’s “sewer vacuum” trucks to run on bio-diesel made from what would have been “waste” vegetable grease collected from a local restaurant.

As well, the City has instituted a new policy for printers, copiers, faxes, toner and paper purchased and used by the city to save energy, natural resources, and financial resources for the city, and optimize the city’s printing operations by:

- 1) Reducing the number of printers, faxes and scanners currently in use;
- 2) Mandating the use and purchase of recycled/ environmentally preferred paper (No less than 80% of the paper purchased by city agencies will be environmentally preferred paper. Characteristics of this paper include that it is made from 100% post consumer recycled paper, processed chlorine-free, produced with 100% green eCertified renewable energy, and has acid-free content); and
- 3) Developing a standard for the use and purchase of re-manufactured toner cartridges.

TOP 10 NATURAL STEP PROJECTS IN MADISON

1. Identifying energy wasters in City government. This includes a review of our current inventory of buildings, their equipment, and their use of electricity and natural gas.
2. Commuting incentive programs for City employees. Incentives encourage employees to commute via carpool, transit, bicycles, etc, with quantification of resulting environmental savings.
3. Fuel efficiency standard for the City fleet. This involves creating a City-wide fuel consumption/efficiency policy and analysis of several alternatives to reduce fuel consumption. This can include a review of fuel and efficiency technologies for Metro buses and peer learning from Milwaukee.
4. Green cleaning supplies and services. This could include expanding the current green cleaning purchasing initiative, expansion of the policies to other departments and agencies under the authority of independent governing boards, and measuring impacts.
5. Public housing. This involves identifying cost/energy saving opportunities through replacement and updates of HVAC, water heaters, etc.
6. Zoning code rewrite. This multi-year effort will initially focus on the training of relevant City staff in the principles of The Natural Step and the development of the RFQ and RFP to acquire consultant services for the rewriting of our zoning code.
7. Solar panels and/or wind power at City facilities. This pilot project could demonstrate the efficacy of renewable energy sources for City operations.
8. Bio-diesel pilot project for Engineering vehicles. This pilot would test the use of waste restaurant grease as a fuel source for equipment used to clear City sewers.
9. Garage door at Metro. This proposal would retain heat in the maintenance area and keep out engine fumes from the bus storage area, improving health conditions of city workers.
10. Bus wash and vacuum systems at Metro. This proposal would investigate environmentally friendly equipment and practices that can help keep our buses clean, safe and presentable.

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Madison residents pick up produce from local farmers

The City recently launched the MPowering campaign - Under this cooperative private-public-not-for-profit campaign, the City of Madison and many partners are seeking to reduce citywide emissions of carbon dioxide (CO₂) by 100,000 tons by 2011.

On the horizon is a multi-year effort of rewriting the city's zoning code, which, Statz says, will build upon green sensibilities. "A zoning code that incorporates sustainable principles will help the City mitigate its impact on the environment," he explains.

The City of Madison employed a conscious change management strategy. The City realized that re-engineering initiatives often start with good designs for the future but fall apart in implementation. Using a "Fast Cycle Change" (FCC) approach ensured that results were realized rapidly, as time can build complexity and reduce opportunities for effective learning.



The City of Madison's MPowering campaign aims to reduce CO₂ emissions by 100,000 tons in 3 years.

CHANGE MANAGEMENT

Selection of trainees, the recommendation of pilot projects, as well as allocation of resources and timelines were all geared toward maximizing the implementation of the projects. Criteria for trainees included "decision-maker", "good communicator", "respected" and "commitment to sustainability". Multiple face-to-face meetings with staff members leading up to the training underlined why the change initiative mattered and reinforced staff members' own motivations. Madison realized the importance of building ownership and motivation to implement change from the beginning.

The change initiative has been supported throughout by coaching, collaborative databases, and other tools. The mayor has committed to meet with project teams every two months to hear progress reports. There is a built-in commitment to document the benefits of projects to Madison. The internal celebration of achievements, no matter what size, began almost immediately.

Our current zoning code was written in the 1960's when we had a very different idea of how cities should work and how their parts should fit together.

ANDREW STATZ
FISCAL EFFICIENCY AUDITOR
MADISON MAYOR'S OFFICE

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LAST WORDS

The ongoing sustainability initiative has had a significant impact on both Madison's municipal government and the wider community. A number of municipal employees have commented that they are now applying the Framework to "everything we do." The initiative – and the common language and understanding it has engendered – has created opportunities for meaningful dialogue and strengthened relationships across departments. Staff attendance at all related events has been high, and implementation is approached with enthusiasm.

That same level of interest is also showing up in the community. The fire chief has ordered eLearning licenses for her staff, and there are several job descriptions now circulating that require familiarity with The Natural Step Framework.

The 2007 budget created a new City Facilities and Sustainability Manager position within the engineering department. One of the responsibilities of the new manager will be to build on the success of the ten pilot projects. Several of the initial ten projects either have been implemented or are in process, and the municipality has already begun a new process to identify a new round of projects for the future to engage a growing group of City staff trainees. Madison hopes to gradually develop a performance-based budgeting tool with 100 plus benchmarks based on sustainability. After raising internal awareness of sustainability, Madison intends to challenge other communities in Wisconsin to join it on the journey toward sustainability and to offer learning resources to help them get there.

ADDITIONAL INFORMATION

City of Madison Mayor's website on The Natural Step
www.ci.madison.wi.us/mayor/Natural

MPowering Campaign
www.mpoweringmadison.com

City of Madison Sustainable Design and Energy Committee
www.ci.madison.wi.us/sustainabledesign

Toward a Sustainable Community:
A Toolkit for Local Government
www4.uwm.edu/shwec/publications/cabinet/reductionreuse/SustainabilityToolkit.pdf

Sustain Dane
www.sustaindane.org

TNS for Communities Study Circle Guide
authored by Sustain Dane
www.sustaindane.org/Pages/studycircle

1000 Friends of Wisconsin
www.1kfriends.org/Eco-Municipalities

This case study was written and researched by Laura MacKay and edited by Bart Robinson for The Natural Step Canada. Thank you to Andrew Statz, Bryant Moroder and Lisa MacKinnon for granting The Natural Step interviews. Creative Commons Copyright 2007. Some rights reserved.

