

WATER BRIEFING

April 3, 2009



UPDATE

MILWAUKEE 7 WATER COUNCIL



“Fresh water is poised to be the world’s new oil, and this (Milwaukee) region is perfectly located to lead the effort in freshwater sciences - and cash in on any commercial opportunities.”

MILWAUKEE JOURNAL SENTINEL EDITORIAL
JANUARY 11, 2009



Vision Statement

Imagine that you are in the water business in China and coming for the fifth Global Water Expo. You fly into Milwaukee, The Freshwater Hub of the World, and board the light rail that takes you to the Water Council. You pass by a strip of recognizable water industries. You arrive at a beautiful facility connected with the Discovery World. There is the Water Council and the School of Freshwater Sciences. There are signs for several large water companies. Students and children are milling about while a conference is taking place.

A huge vessel pulls up and you watch an exchange of research equipment and scientists. The vessel pulls out into the Great Lakes. There is a building complex that stretches from the Lake to Rockwell. It is an incredible place of research and of water, technology and business formation. Kohler, Badger Meter and Veolia have their R&D there.

At the Water Council you meet Andy, a freshwater scientist. Andy grew up on Lake Michigan and went to UW-Madison for his undergraduate degree in engineering, then to UW-

Milwaukee’s Freshwater Institute, where he received his Ph.D. in freshwater sciences. He shows you around a busy Water Council.

You discover that since the Water Council opened, 10 major water companies have moved large portions of their operations to Milwaukee to join the five major water companies that are home-grown. The number of water-related industries has risen from 150 companies to 250 companies in 5 years. Green jobs, most involving water, have increased 25% and have raised Milwaukee’s standard of living. Milwaukee’s water economy and its power to draw water industries are being called the “Blue Gold Rush.”

You see the Water Council’s world renowned library—a depository of legal and policy water information and technology, and the educational efforts to inform citizens on the care and protection of our waters, especially Lake Michigan.

Newly proud of being a Milwaukeean, Andy takes you on a city tour. You immediately sense the freshwater feel of this

water-rich city. Bradford Beach hosts hundreds of kids and adults swimming in clean water and playing volleyball. You understand that yellow perch are growing again in Lake Michigan and the fish supply from Milwaukee is plentiful in part because of the aqua farm work of the WATER Institute. Friday Night Fish Frys are more popular than ever...and cheaper than in 2009.

You see the river running through the Menomonee Valley where people fish and swim. Downtown buildings show off green roofs and solar panels that run water heaters.

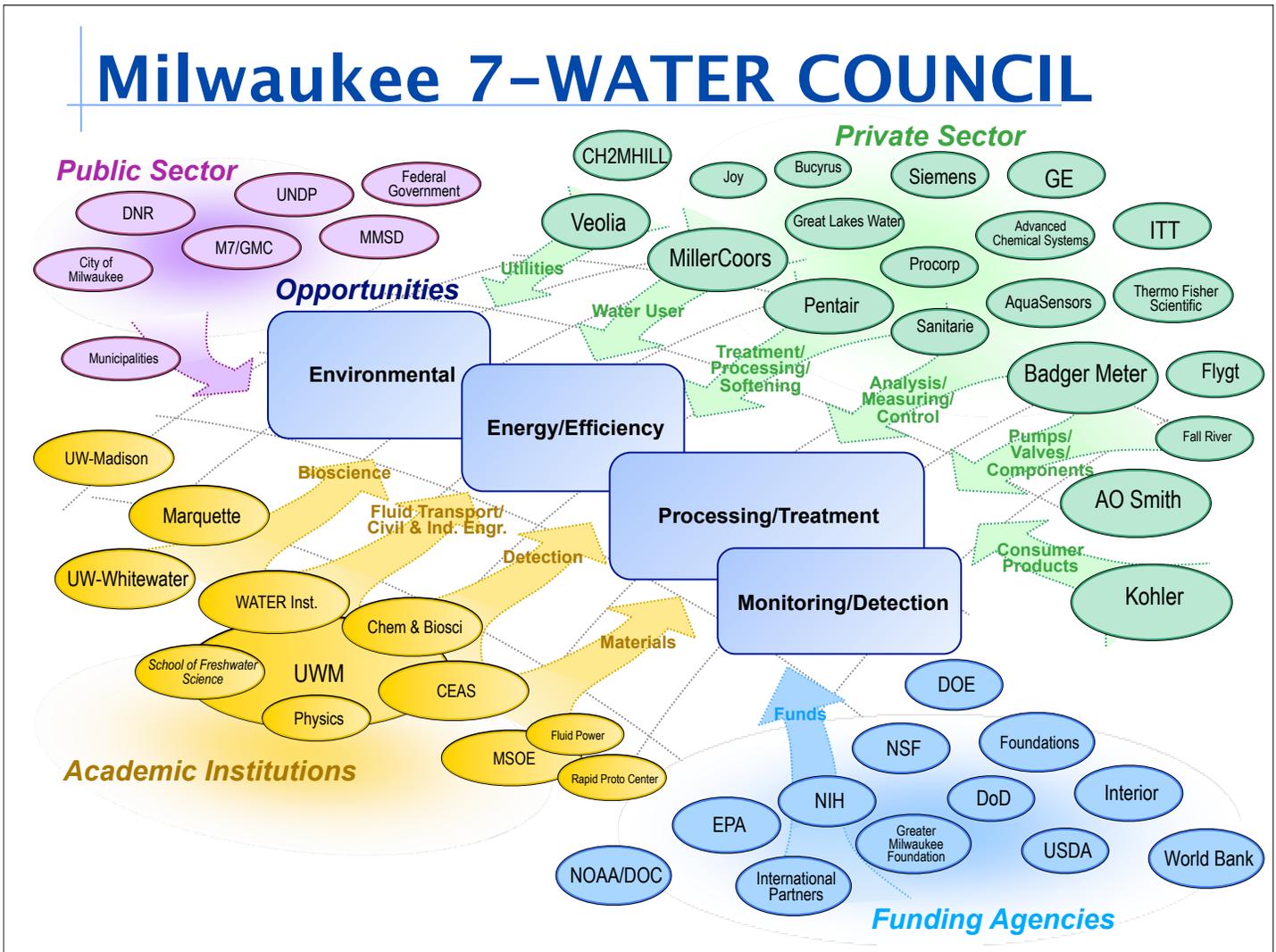
As you walk through City Hall, you sense the collaborative efforts on the part of all re-use water and to use it effectively with the best technology Milwaukee can offer.

You feel clean and fresh as you journey through the city. You return to the Water Council, where you are connected to two Milwaukee industries and the WATER Institute in order to talk business. You're sure you'll sign a contract for services and products before you leave. And you know you will be back in Milwaukee, The Freshwater Hub of the World.

The Milwaukee Region is blessed with an abundance of fresh water, by far our most precious resource. Our area also contains a potent concentration of companies in the business of water and academic prowess in the water research field. With a strong, supported strategy to align these companies and academic research capabilities, **the Milwaukee Region is a world hub for freshwater research, economic development and education.**

The graphic below illustrates the water cluster and the opportunities for synergy in the Milwaukee Region. The Water Council is linking together all of the components to foster communication and collaborative projects for research and development in this critical field.

As one quote from a white paper authored by Sammis White, Associate Dean of the School of Continuing Education at the University of Wisconsin-Milwaukee, put it: "we need, as a region, to place a large bet on this cluster, immediately."



Water as an Opportunity

The need for fresh, clean, reliable water sources will dominate geopolitics for decades to come. Fresh water is critical for wealth – and health. Water is essential to sustain agriculture, industry, recreational activities and life itself, and unlike oil, water has no substitute. Many states in the U.S. are already

Only 0.007% of all fresh water on earth is easily accessible. In 2000, the world already used 54% of it.

facing water shortages – look not only to California or Arizona, but also places like Atlanta, which is struggling with severe drought conditions. Worldwide, the statistics are staggering:

- 1.2 billion people, or 17% of the world's population, are at risk from a lack of clean, available water. This is roughly the entire population of India, the second most populous country in the world. are at risk from a lack of clean, available water
- 2.6 billion people, or 39% of the world's population, lack adequate sanitation, primarily due to water problems . This equates to combining the populations of India and China
- About 35% of people in the developing world die from water-related problems
- At the current per-capita rate of water use, the U.S. will need 16 trillion additional gallons of fresh water per year by 2020 or within a short eleven years for municipal and light industrial uses. This equates to one-fourth of the combined outflow of all the Great Lakes

Consequently, water will be one of the largest economic growth sectors in the world over the next several decades. In discussing “water” we include all the infrastructure associated with the water industry – equipment, and services for pumps, valves, measuring equipment, water testing, filtration/desalination, drinking water, wastewater, storm water, industrial and agricultural water treatment, automation, water recreational equipment and professional services. Academic research facilities and water-related companies in the Milwaukee Region are poised to collectively take the lead in tackling these issues and more, under the guidance of the Milwaukee 7 Water Council.

The Milwaukee Region's Assets

Business

The Milwaukee Region is uniquely positioned to take the lead in this incredibly important industry. Over 120 water-related companies locate operations here, including five of the 11

The Milwaukee Region's water industry is a \$10.5 billion market, supporting 20,000 jobs and accounting for 4% of the total world water business.

largest water firms in the world. Many are headquartered here or nearby, including water industry giants Badger Meter, A.O. Smith and Kohler and a number of smaller, emerging firms. Some companies recognize this advantage already: GE and Pentair formed a global residential water filtration joint venture in 2008, and they chose to locate their global headquarters in the Milwaukee Region.

Academia/Research

Academic and research facilities also put the Milwaukee Region at a distinct advantage. Over 100 academic scientists and researchers are focused on water in this region and in areas adjacent, a number projected to grow significantly in the next decade. The Great Lakes WATER Institute is the largest freshwater research facility on the Great Lakes, Marquette University is a leader in anaerobic treatment and the

The Great Lakes Water Institute is the largest freshwater research facility on the Great Lakes.

Milwaukee School of Engineering is stepping up its work with companies to develop new, patentable products. Sizable research resources exist at the University of Wisconsin-Madison, the home of limnology, and other state schools such as the University of Wisconsin-Whitewater and the University of Wisconsin-Parkside provide significant facilities and staff supporting research for lakes, rivers, ecosystems and processes for fresh water preservation, purification and recycling.



Establishment of the Water Council

This concentration of business and academic facilities is only an unfulfilled opportunity without a dedicated group working to tie everything together and establish an atmosphere of collaboration, communication and growth-minded development. The Water Council is dedicated to linking and leveraging these assets to create a new regional economic engine with global potential.

Table 1: Name and Rank of Largest Water Companies in the World. Companies in **bold** have significant facilities or operations in the Milwaukee Region.

Company Name	Country	2007 Water Revenues (\$Bil.)
Veolia	France	15.2
Suez	France	10.8
Grupo Ferrovial	Spain	4.5
Sabesp	Brazil	3.2
Severn Trent	U.K.	3.1
RWE	Germany	3.1
ITT Corp.	U.S.	2.9
Pentair	U.S.	2.5
General Electric	U.S.	2.3
Mueller Water Works	U.S.	1.8
Siemens	Germany	1.8

The concentration of water-related companies and academic scientists and researchers, when combined with other unique business, workforce and quality of life assets for the region, make it an ideal candidate to take the lead in this important field. The area is also blessed with abundant fresh water resources, uniquely spans both the Great Lakes and Mississippi River watersheds (two largest watersheds in the United States) and has an existing regional economic council: the Milwaukee 7. The Water Council's role is to coordinate these assets, link opportunities and lead the way to expand the Milwaukee Region as a world water hub.

The Water Council

The water cluster was first recognized in the strategic framework efforts of the Milwaukee 7 and separately, at the same time, was being discovered by two Milwaukee water company executives. As a result, the Milwaukee 7 Water Council was developed in July of 2007 after a highly successful Water Summit that convened researchers, business leaders, engineers, environmentalists and community representatives. Co-Chaired by Rich Meeusen, Chairman/President/CEO of Badger Meter and Paul Jones, Chairman/CEO of A.O. Smith, the Water Council has established itself as an aggressive group dedicated to its mission. The Council has developed four standing committees: University/Corporate Linkages, Education/Talent, Global Communication and Real Estate.

Water Council Mission

To align the regional freshwater research community and water-related industries to further establish the Milwaukee Region as a world hub for water-related research and economic development, giving the region a leading role in water issues that will continue to dominate economic and political considerations worldwide.

Accomplishments to Date

Significant progress occurred within the first 18 months of the Council:

- Incorporating as a 501(c)(3) nonprofit organization, formation of a Board of Directors and development of a business plan.
- Advancing the proposed UWM School of Freshwater Sciences, including approval for its creation by the University of Wisconsin Board of Regents and inclusion in the Governor's proposed budget.
- Submitting an application to become a member of the United Nations Global Compact Cities Programme.
- Conducting first water-related business internship training workshop.
- Holding the first technical transfer R&D workshop, bringing together scientists from both industry and academia.
- Contracting with a grant writer to apply for grants and communicate opportunities to Water Council staff for dissemination to members.
- Linking the City of Waukesha, Procorp Enterprises, the Wisconsin DNR and UWM to develop new solutions for radium treatment in water.
- Commencing a CEO Call Program to communicate Water Council goals to area companies while gathering feedback from and uncovering potential collaboration opportunities with these companies.
- Meeting with members of Congress and the Wisconsin Department of Natural Resources to discuss goals, needs and priorities.
- Partnering with local PR firms to develop local and national strategies for raising public awareness of Milwaukee's water cluster position.
- Establishing water as a key cluster for the Milwaukee Region in the October, 2008 edition of Hemispheres, the in-flight magazine for United Airlines, as part of a 36-page feature on Milwaukee.



- Convening Water Summit II in July 2008, hosting 200 participants, visited by U.S. Senator Herb Kohl and, working with the World Trade Center Wisconsin/World Trade Center Association, welcoming keynote speaker Fred Dubee from the United Nations Global Compact.
- Working with U.S. Senator Kohl in securing a \$300,000 Federal earmark for a business incubator.
- Promoting U.S. Senator Russ Feingold's E-4 Initiative which targets SBIR grants for water-related initiatives.

Water Council Business Plan

To bring the Water Council to the next level in its development and the creation of action plans to accomplish goals, a Strategic Actioning Session was held in Delavan, Wisconsin in September, 2008. The Session convened 44 diverse participants from business, academia, government and advocacy groups. Together, they defined the opportunities with water and established goals, activities, timelines and

responsibilities that provided a five-year road map for accomplishing the Council's mission.

Goals of the Water Council

- Formal Governance and Permanent Council Structure
- Talent Development
- Global Communications
- Organization/Board
- Corporate-University Linkage
- School of Freshwater Sciences & Research Park

Formal Governance and Permanent Council Structure

In order to secure grant funding which will enable it to fully function as an entity worthy of its mission, the Water Council has incorporated as a nonprofit and is in the process of finalizing 501(c)(3) status.



“Milwaukee is one of those places whose leaders see what’s coming. Water technology companies there are anticipating future demand by hiring scientists skilled in water engineering. And the University of Wisconsin-Milwaukee plans to be the first college in the country to offer a graduate-level degree in Freshwater Sciences.”

CLEVELAND PLAIN DEALER
DECEMBER 2, 2007

As a membership-based organization, the Water Council is in the process of finalizing a business plan and developing dedicated staff to coordinate industry services, create strong linkages between education, research, business, the financial community and advocacy groups, and grow water-based companies and research talent. The Water Council's 501(c)(3) status also allows it to accept funding from corporate and private foundations as well as government sources.

The Board of the Water Council features a cross-section of representatives from industry, academia, government, environmental and investment groups. Members of the Board include:

Richard Meeusen, Chairman/President/CEO, Badger Meter,
Chair

Paul Jones, Chairman/CEO, A.O. Smith
Vice Chair

Barry Grossman, Partner, Foley & Lardner
Secretary

Julia Taylor, President, Greater Milwaukee Committee
Treasurer

Paul Purcell, Chairman/President/CEO, Robert W. Baird
Mary Jean Huston, State Director, The Nature Conservancy
Dick Leinenkugel, Secretary, Wisconsin Dept. of Commerce
Carlos Santiago, Chancellor, UW-Milwaukee
Laurent Auguste, President/CEO, Veolia Water N.A.

Daniel Bader, President, Helen Bader Foundation

Franz Hoffmann, Ph.D, Consultant, Water Council

Mike Jones, VP-Corporate Affairs, MillerCoors

Robert Wild, S.J., President, Marquette University

Education and Talent – Building a Water Generation

For both undergraduate and graduate schools, the Water Council's Education and Talent Committee is coordinating an organized and networked system of all internship and co-op program for easier access by both companies and students.

Funding has been obtained and work has begun on a gap analysis of the education system in the region as it pertains to the water industry. This analysis is being done in collaboration with Veolia North America and Discovery World at Pier Wisconsin, a nonprofit enterprise focused on innovation and technology with a special emphasis on Great Lakes education and conservation.

Programs reaching into the K-12 and undergraduate systems, conducted in conjunction with the extensive tools and facilities available within Discovery World, will provide a network of potential water-related talent extending back into high schools and before, positioning water research and industry as an aspirational field. University education programs and professor endowments will build solid educational foundations for schools and their students across the region. This initiative will help build a network of academic prowess that will benefit not only talented students, but companies looking to conduct research and product development in a collaborative fashion.

Internship workshops are beginning to help companies develop programs to bring in talent directly from schools and give students an opportunity for hands-on learning. Industry sponsored scholarships will augment the link between companies and talent and encourage more students to consider the water industry for their career. The Water Council is implementing a mentoring program and will provide 30+ internships by the end of 2009. The Council is looking to partner with the Regional Workforce Alliance and Spreenker, LLC to help coordinate the internship program.

Global Communications

The region has applied to the United Nation's Global Compact Cities Programme to be one of less than 20 cities around the world which are translating the principles of the UN Global Compact into innovative, concrete and sustainable solutions. The Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten universally accepted principles in the areas of human rights, labor, environment and anti-corruption. By becoming a member of the Cities Programme, it is the expectation of the Milwaukee region to begin to share with the rest of the world our knowledge, expertise and innovations related to water quality. An answer on this application is expected by the end of April 2009.



► **Multifaceted marketing program**

With an emphasis on a strong public relations program to tell the Milwaukee story, a relationship has been established with the public relations agency CKPR to implement a national and international program to generate news stories about Milwaukee’s water industry. The program also involves generating local and regional news coverage of this emerging industry. Additional aspects include “Insider Briefings” with corporate and community public relations professionals, development of a media resource guide, creation of promotional material, recruitment of national and international conferences to Milwaukee, implementation of a Water Council membership campaign and various additional marketing tactics aimed at spreading the Milwaukee message.

► **Designation as a United Nations’ Non-Governmental Organization**

The Water Council will submit to the United Nations an application to be appropriately recognized as a Non-Governmental Organization (NGO). This designation will enable the Water Council to become part of a powerful network of over 1600 organizations that are spread across the world. Being designated by the UN will allow the Water Council to have access to the international body’s information programmes and to be fully apprised of the issues on the UN’s agenda and the work of the Organization. The initiatives include weekly NGO briefings, communication workshops, an annual NGO conference and an annual orientation programme for newly associated NGOs.

► **World Trade Center Wisconsin/World Trade Center Association**

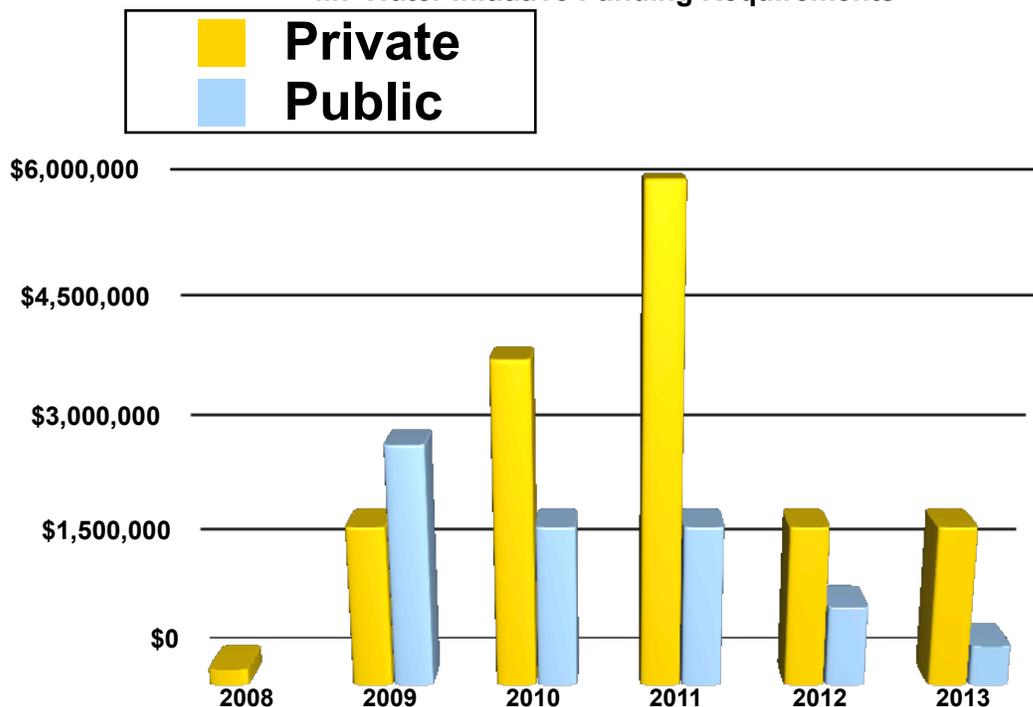
The Water Council has become actively engaged with the World Trade Center Wisconsin (WTC) and its parent organization in New York City, the World Trade Centers Association. This is global network of over 300 WTCs in 90 countries provides: 1) a vehicle for the international promotion of Milwaukee’s water hub and state of Wisconsin; 2) an opportunity to connect companies & universities in the Milwaukee region with other companies, universities, governments around the globe; 3) the exploration of economic development initiatives with respect to the attraction of businesses and recruitment of talent; and 4) research support from the global business perspective to the Water Council.

► **Public and intranet websites**

The Water Council website provides the first face to the world of the organization’s programs and accomplishments. The public site showcases the region’s water assets and provides easy access to the resources to become fully engaged in Milwaukee’s water industry. An intranet portion allows for online collaboration with forums and resource guides for companies, academic research capabilities and expert contacts for the media.

Proposed funding requirements are illustrated in the chart below. Private funding is expected to make up the bulk of Water Council revenue, with the exception of 2009, a year slated for “starter” support from government and charitable foundations.

M7 Water Initiative Funding Requirements



Corporate-University Linkage

For successful development of the water cluster, linkages must develop between companies and universities. These linkages will be established through connections made by individuals and Water Council members (e.g. Claus Dunkelberg, Water Industry Specialist) as well as the Water Council website, <http://www.milwaukee7-watercouncil.com>.

Connections between corporations and universities not only require development of communication links, but also systems by which links can be easily established, details are readily available, and sensitive information is protected during technology transfers. The base linkage system utilizes websites which are interconnected to business, academia, government and NGO websites. The Water Council website will provide data and links for compiled data including resources, information and advances/accomplishments. In addition, the Water Council will facilitate/host industry and academia meetings, fostering relationships and technology development.

Already begun is the effort to secure a National Science Foundation (NSF)-funded Industry/University Collaborative Research Center, where UWM and Marquette will work together in conjunction with private business and industry on research and development.

Also, Marquette University’s highly-regarded Law School is exploring the development of a water law curriculum stream. The UW-Whitewater School of Business, one of the top business programs in the state and noted program on a national level, will incorporate science courses with business classes in a cross-curriculum program.

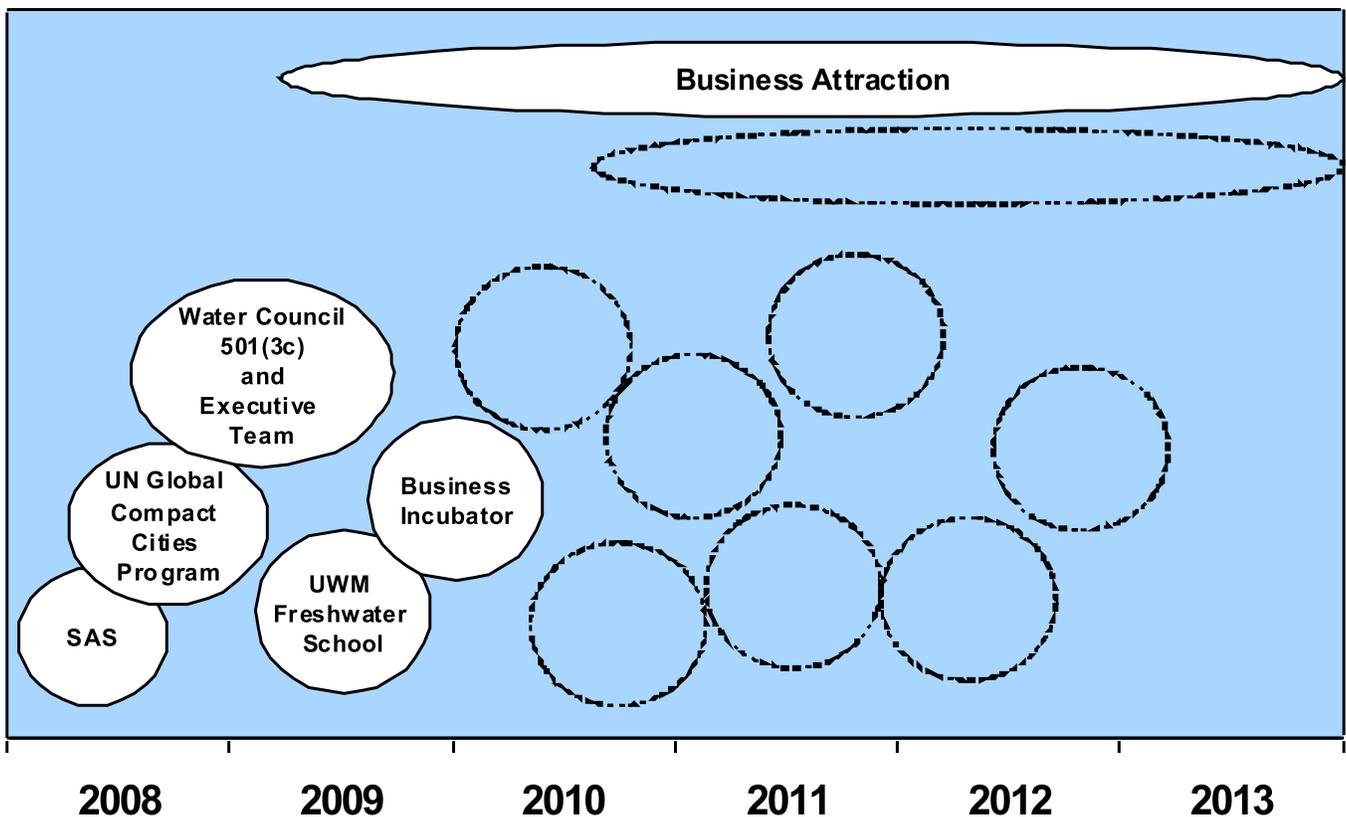
A key development is the approval and funding allocation for the UW-Milwaukee School of Freshwater Sciences, which will play a key role in linking companies and research facilities from academia together.

Timelines

The Water Council set some timelines and milestones for its major action items, as illustrated below. The SAS (Strategic Actioning Session) has been completed; the application to become part of the United National Global Compact Cities Program has been submitted and is currently under final review.

Active plans for future Water Council staffing, the UWM School of Freshwater Sciences, the research park and business incubator, and full business attraction and expansion efforts are incorporated and cover a timeframe from now through 2013 and beyond.

M7 Water Initiative Milestones



Budgeted Faculty	FY 07-09	FY 09-11	FY 11-13	Total
13 core (50 affiliated)	+2	+6 (including Founding Dean)	+6	27
Incremental \$ in current DIN	\$200K	\$1 million	\$1 million	\$2.2 million

The School of Freshwater Sciences

The UWM School of Freshwater Sciences will serve as a centerpiece for the academic and research cluster in the Milwaukee Region. The first of its kind in North America, there are five principal needs and guidelines for the School of Freshwater Sciences:

1. That the school will employ water-related scientists with multi-disciplinary backgrounds.
2. The School’s goals and efforts will be based on the need for basic and applied research.
3. Stimulating partnerships among government agencies, businesses and NGOs.
4. The need for substantial increases in the number of faculty, including a founding Dean for the School who will work with local businesses.
5. Space: proposed sites for School facilities have been found and are in the approval process.

Land and Location

A number of parcels are available and under discussion to create the core footprint for the school, including available land held by the UWM Great Lakes WATER Institute and the property immediately west along East Greenfield Avenue. The city of Milwaukee is currently negotiating to put the land adjacent to the Great Lakes WATER Institute under lease for this project.

On a temporary basis, the Great Lakes WATER Institute and available space in the immediate area, could serve as research and teaching facilities for the UWM School of Freshwater Sciences, providing cross-research and testing opportunities few universities could offer.

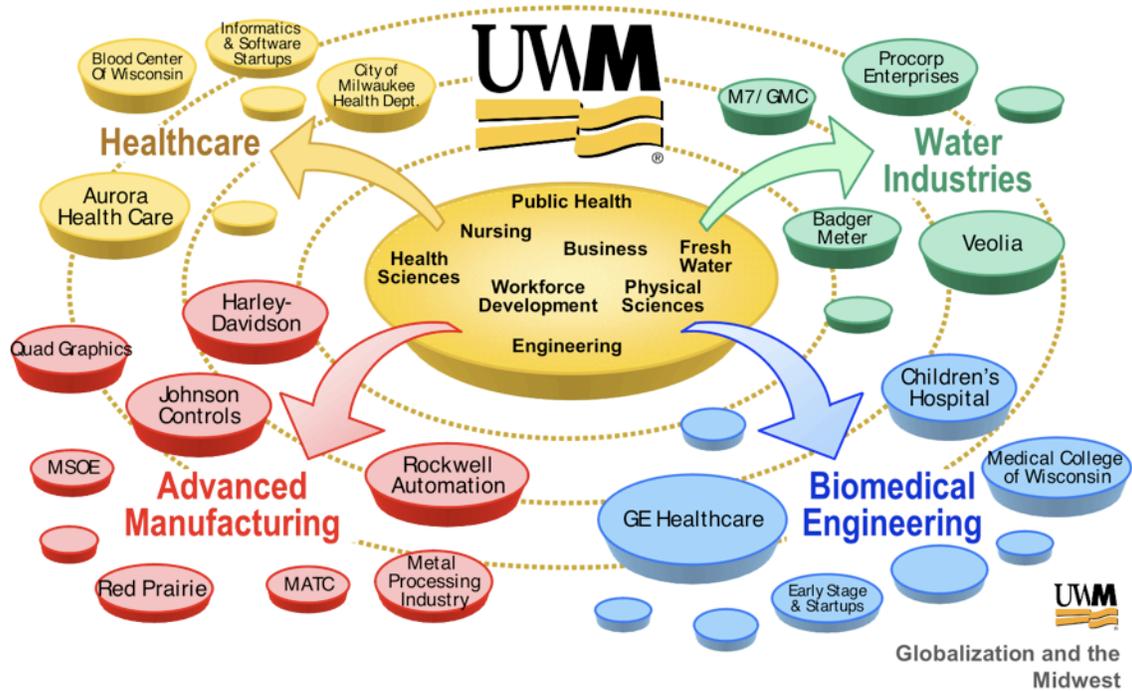
Research Park/Incubator area

The project also envisions a water research park and water-related business incubator located south and east of the school’s facilities along Greenfield Avenue. Available existing parcels could serve as expansion areas for the future needs of any of these facilities. Redevelopment plans will also incorporate residential and commercial properties with a transit-oriented design. In addition this area has current ferry and freeway access and the potential for Amtrak and light rail based on existing rights of way already located in the area.

Proposed HQ Site on Lakefront

A proposed “signature building” for the School of Freshwater Sciences is proposed along Milwaukee’s lakefront at the current Pieces of Eight/Harbor 550 property located between Discovery World and the Milwaukee Art Museum. This signature building would provide 40,000-50,000 square feet of space for management, policy and business development offices. The Council has the full support of Discovery World and Milwaukee philanthropist Michael Cudahy has committed to helping the School and this facility become a reality. The cost of such a facility with parking will be approximately \$25 million. The Board of Regents has supported this request, and Wisconsin’s Governor proposed \$240 million in support for UWM initiatives for the state’s 2009-2011 biennial budget. It should also be noted that a Master Plan was completed for its Great Lakes Research Facility in 2003. If UWM were to complete all of the remaining projects highlighted in that plan to bring the facility up to its highest and best use, this would require an additional \$20 million dollars.

Building with regional partners



Water and Next Generation Manufacturing

To help move water-related manufacturers along in the quest for success, the Milwaukee 7, the region's economic development initiative, is also taking the necessary steps that will further assist local manufacturing to become truly Next Generation Manufacturers. These steps will make the creation

of new products more appealing fiscally. Becoming leaner and more innovative in the use of resources, important components of next generation manufacturing (NGM), will not only help manufacturers but also their customers, including the water-related firms.

The Milwaukee Region has the academic knowledge, the business expertise and the government commitment to find answers and is committed to become the "Silicon Valley" of Water Technologies.