

MANAGEMENT INFORMATION SERVICES, INC.

JOBS CREATION IN THE ENVIRONMENTAL INDUSTRY IN WISCONSIN AND THE U.S.

SYNTHESIS OF FINDINGS AND POLICY RECOMMENDATIONS

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Highlights from “JOBS CREATION and THE ENVIRONMENTAL INDUSTRY IN WISCONSIN AND THE U.S.” a report by Management Information Services, Inc. (MISI) for the Building Diagnostic Research Institute (BDRI), October 2004. The report presents new and detailed information about the jobs creation impact and potential of the environmental industry in Wisconsin, and the nation as a whole.

KEY FINDINGS

GOOD JOBS FOR PEOPLE IN ALL WALKS OF LIFE EXIST TODAY IN THE U.S. THANKS TO ENVIRONMENTAL PROTECTION ACTIVITIES—BUT THIS CONNECTION IS OVERLOOKED

Good stable jobs for people in all walks of life--blue-collar, white-collar and high-tech, carpenters, cashiers, electricians, etc.—have been created by environmental protection in the U.S., and continue to be created, including in the manufacturing sector. Contrary to public perception and policy presumption, environmental protection and jobs creation are not in conflict. On the contrary, the environmental industry has been overlooked as a major source of employment in the U.S. for many decades. Environmental management, regulation and investment create and protect jobs at a significant level. Environmental jobs exist across the spectrum of work activities and may be directly or indirectly created.

Each day people in virtually every line of work earn their livelihood thanks to environmental management and investment. But, very few workers realize that their jobs are directly and indirectly tied to, and even dependent on, the environmental industry.

In short, environmental investment is good for jobs, workers, and long-term economic vitality. It is a reconciling force between economic development and environmental protection—which have traditionally been treated as irreconcilable. The link between jobs creation and environmental protection can be maximized for strategic impact on the jobs outlook of the U.S., and long-term environmental and economic health.

IN 2003, THE ENVIRONMENTAL INDUSTRY WAS GENERATING NEARLY 5 MILLION JOBS IN THE U.S.

For perspective, compared to employment generated by other industries, this is :

- More than ten times the U.S. pharmaceuticals industry
- Nearly six times more than the apparel industry
- Almost three times more than the chemical industry
- Fifty percent more than religious organizations
- Nearly half the employment in hospitals
- Almost one-third the size of the entire construction industry

NATIONAL ENVIRONMENTAL INDUSTRY IS LARGER THAN REALIZED

Over the past four decades, protection of the environment has grown rapidly to become a major sales-generating, profit-making, job-creating U.S. industry.

In fact, in 1997, the environmental industry in the U.S. was on a trajectory to surpass defense spending in importance to the U.S. economy. At the time, environmental spending was projected to reach \$245 billion by 2005, while defense spending was projected to reach \$225-230 billion

Environmental spending has surpassed the 2005 projections already, but so has defense spending. However, absent world events, such as the war in Iraq and increased domestic security expenditures post September 11, 2001, the environmental industry might today indeed surpass defense spending in importance.

ENVIRONMENT INDUSTRY IS LARGER THAN THE TOP FORTUNE 500

The size and scope of the U.S. environmental industry is not fully clear to the public-at-large, decision-makers, or the media. The size and scope of the environmental industry in Wisconsin is likewise, not fully appreciated.

- Nationally, the environmental “industry” ranks well above the top of the Fortune 500, and this report estimates that in 2003 protecting the environment generated:
 - \$301 billion in total industry sales
 - \$45 billion in Federal, state, and local government tax revenues
 - \$20 billion in corporate profits

Indeed, the sales and spending of the U.S. environmental industry is larger than that of Wal-Mart, America’s largest corporation.

ENVIRONMENTAL INDUSTRY LIKELY TO GROW

The environmental industry will continue to grow rapidly for the foreseeable future, and MISI forecasts that in the U.S. real expenditures (2003 dollars) will increase from \$301 billion in 2003 to:

- \$357 billion in 2010
- \$398 billion in 2015
- \$442 billion in 2020

WISCONSIN'S ENVIRONMENTAL INDUSTRY IS MAJOR EMPLOYER AND ECONOMIC FORCE.

MISI estimates that in 2003:

- Sales of the environmental industries in Wisconsin totaled \$5.4 billion.
- The number of environment-related jobs totaled more than 97,000.
- The environmental industry in Wisconsin comprised 2.9 percent of gross state product.
- Wisconsin environmental industries accounted for 1.8 percent of the sales of the U.S. environmental industry.
- Environment-related jobs comprised 3.5 percent of Wisconsin employment.
- Environment-related jobs in Wisconsin comprised two percent of the total number of environment-related jobs in the U.S.
- Environment-related employment in the state has been increasing in recent years between one and two percent annually.

IN WISCONSIN, MANUFACTURING JOBS BENEFIT FROM ENVIRONMENTAL ACTIVITIES:

In Wisconsin, 31 percent of private sector environmental jobs are in manufacturing, compared to 21 percent for all other private sector employment. This means that investments in protecting the environment are likely to provide a greater than proportionate assist to Wisconsin's manufacturing sector than other sectors. This is especially important in Wisconsin, which is the 2nd most manufacturing-intensive state in the U.S. For a state worried about losing traditional manufacturing jobs, outsourcing and globalization, the presence of a vibrant environmental industry can be maximized, with significant potential jobs benefit for manufacturing workers.

Also, about 3.5 percent of the state's manufacturing employment is environment-related, equal to the 3.5 percent average for environmental jobs of total state employment.

ENVIRONMENTAL PROTECTION GENERATES LARGE NUMBERS OF JOBS THROUGHOUT ALL SECTORS OF THE ECONOMY AND WITHIN MANY DIVERSE OCCUPATIONS.

MISI forecasts that U.S. employment created directly and indirectly by environmental protection will increase from 4.97 million jobs in 2003 to:

- 5.39 million jobs in 2010
- 5.76 million jobs in 2015
- 6.38 million jobs in 2020

Firms working in the environmental and related areas employ a wide range of workers at all educational and skills levels and at widely differing earnings levels. Even in environmental companies, most of the employees are not classified as "environmental specialists." Rather, most of the workers are in occupations such as laborers, clerks, bookkeepers, accountants, maintenance workers, cost estimators, engine assemblers, machinists, assemblers, machine tool operators, mechanical and industrial engineers, welders, tool and die makers, mechanics, managers, purchasing agents, etc.

And the vast majority of the jobs created by environmental protection are standard jobs for accountants, engineers, computer analysts, clerks, factory workers, truck drivers, mechanics, janitors, etc. In fact, most of the persons employed in these jobs are probably little aware their livelihood is linked to protecting the environment because the work lies outside the easily identified classically "green" sector.

MANY JOBS IN SURPRISING VARIETY IN WISCONSIN

Environmental protection generates more jobs in some sectors than others. We would expect jobs to be created in such areas as environmental science and pollution control, etc. However, for occupations not traditionally seen as environment-related, a greater than proportionate share of the jobs are also generated by environmental protection.

In 2003, environmental protection generated in Wisconsin generated:

- More jobs for machinists (441) than forest and conservation technicians (262)
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- More jobs for office clerks (2,072) than environmental engineers (1,030)
- More jobs for secretaries (1,100) than environmental scientists (960)
- More jobs for welders (392) than for biological technicians (261)
- More jobs for truck drivers (2,328) than hazardous material removal workers (510)
- More jobs for janitors (1,478) than landscaping and grounds workers (488)
- More jobs for receptionists (777) than medical scientists (479)
- More jobs for security guards (354) than chemists (287)
- More jobs for service representatives (1,297) than septic tank cleaners (620)

Thus, many workers are dependent on environmental protection for their employment, although they often would have no way of recognizing that connection unless it is brought to their attention.

IN WISCONSIN, ENVIRONMENTAL INDUSTRY CREATES HIGH QUALITY JOBS IN ALL SECTORS

- 13 percent of private sector environmental jobs are in administrative, support, and waste management services, compared to five percent of all private sector jobs in the state.
- 24 percent of employment in the utilities sector consists of environmental jobs, primarily water, waste treatment, sanitation, and related facilities.
- Nearly ten percent of public administration employment in the state consists of environmental jobs.

Conversely,

- 3.5 percent of private sector environmental jobs are in the retail trade sector, compared to 13.4 percent in retail trade among all private sector jobs in the state.
- 1.5 percent of environmental jobs are in the finance and insurance sector, compared to 5.5 percent among all private sector jobs .
- Four percent of environmental jobs are in health care and social services, compared to 14 percent among all private sector jobs
- One percent of environmental jobs are in the transportation and warehousing sector, compared to four percent among all private sector jobs in the state.
- Only very small portions of total state employment in sectors such as food services, entertainment, real estate, finance, insurance, and retail trade are comprised of environmental jobs.

HIGH-TECH EMPLOYMENT IN WISCONSIN ALSO BENEFITS FROM ENVIRONMENTAL ACTIVITIES

- More than ten percent of Wisconsin jobs in the professional, scientific, and technical services are environmental jobs.
- 16 percent of private sector environmental jobs are in professional, scientific, and technical services, compared to four percent of all private sector jobs in the state.

Environmental investments generate, proportionately, more than four times as many jobs in professional, scientific and technical services as the state average.

ENVIRONMENTAL JOBS ARE CREATED THROUGHOUT WISCONSIN

Environmental companies are:

- Located in urban centers, suburbs, towns, and rural areas
- Diverse in size and activities, from small firms of 20 employees to large firms employing hundreds

ENVIRONMENTAL COMPANIES ARE AMONG THE MOST SOPHISTICATED, HIGH-TECH FIRMS IN THE STATE, e.g.

ANGI International, Inc. was founded in 1986 and is one of the world's leaders in manufacturing and distributing Compressed Natural Gas (CNG) refueling equipment for natural gas vehicles and other applications in the CNG Industry.

Cardinal Environmental (CE) is a full service environmental laboratory and consulting firm based in Sheboygan that has been in business over 20 years.

Liquid Waste Technology, Inc. (LWT) provides manufacturing and engineering services for automated and remote controlled robotic dredging equipment for waste water treatment and sludges.

MEGTEC Systems designs, manufactures, sells, installs, and services web handling, air flotation drying, process thermal management, and emission control systems, and provides energy and engineering services to maximize productivity and performance.

Natural Resource Technology, Inc. (NRT) is an environmental consulting firm providing technical assistance on natural resource restoration, management, exploration, development, and utilization matters.

North American Hydro, Inc. (NAH) is a Wisconsin-based engineering and independent power producing company specializing in the hydroelectric field worldwide.

Quest Technologies Inc. (QTI) is a world leader in the design and manufacturing of occupational health, safety, and environmental instruments.

STS Consultants (STS) is an environmental engineering consulting firm providing science and engineering solutions for the constructed environment.

Triad Engineering Incorporated (TEI) is a full-service engineering and consulting firm headquartered in Milwaukee that provides engineering and environmental services to a broad range of clients.

POLICY OPPORTUNITIES: JOBS CREATION AND THE NEXT TIER OF ENVIRONMENTAL MANAGEMENT AND ECONOMIC DEVELOPMENT

Strategic policy options exist for the nation as a whole and all states, even counties. As the above data and this report make clear, investments in environmental spending will pay significant dividends in jobs creation and workforce development in all sectors. No state in the U.S. has yet to fully realize this potential, though many states have numerous environmental protection programs or philosophy, or both. The scope, diversity and scale of environmental employment today has shown that, rather than viewing environmental spending or compliance costs as economically negative, states should aggressively move to maximize the benefits, short and long-term of environmental spending.

There is no inherent institutional impediment in Wisconsin, and the existing pro-active policies can be intensified to better maximize jobs creation in the state. What is needed is “cross-over” so that the environmental industry in its broadest sense becomes integral to economic development plans. With such cross-over, the value of environmental management can be brought to bear on traditional economic development and unemployment policies.

Each State Should Create a Jobs and Environment Task Force

An immediate recommendation would be for all 50 states to create a Task Force on “Jobs Creation and Environment Investment,” with the goal of connecting environmental investment and spending with other governmental agencies and initiatives linked to economic development and workforce training, especially to align tax incentives and other policy tools with pro-active environmental jobs creation. For example, Wisconsin could introduce a strong environmental jobs focus to all economic development initiatives of the Wisconsin Department of Commerce and the Business Employees’ Skills Training Program, where thus far no such focus appears to exist.

In Wisconsin, there are a number of other special opportunities and recommendations:

- Establish an annual Governor’s Summit on “Environmental Jobs and Manufacturing”
- Expand the innovative Green Tier program, to better highlight the jobs-environment benefits for participating agencies and companies
- Re-establish the Wisconsin Conservation Corps, terminated in June, 2003.
- Integrate the jobs creation component in key programs, such as Grow Wisconsin, Technology Zone, Community Financial Assistance, Cooperative Environmental Focus, and the Brownfield Development Program
- Integrate a jobs focus to the Governor’s Task Force on Energy Efficiency and Renewables, across all sectors
- Examine special jobs creation benefits of long-term fresh water protection, including groundwater standards.
- Undertake a public education campaign on “Environmental Jobs Creation in Wisconsin” to better communicate the existence, strength, vitality and products of Wisconsin’s environmental jobs and the companies that provide them

- Create an Environmental Jobs Association in Wisconsin, to further strengthen and expand the jobs creation potential of the industry

Maximizing benefits by integrating environmental management with economic development, workforce training and employment policy

Finally, the Wisconsin Jobs Creation and Environment study has demonstrated that a ripe breakthrough opportunity exists for states to recognize and realize the economic and jobs benefits that could flow from specifically facilitating the growth of environment and environment-related industries. This would be a fresh new arena for economic development initiatives, including the creation of new strong export markets.

In addition, from the long-term point of view of expanding and deepening the constituency in favor of environmental protection, it would seem that the positive jobs creation impact of environmental investment could create new constituents for environmentalism among all worker groups, including unionized labor in the automotive industry, thus expanding and diversifying the voice in favor of environmental protection nation-wide, much needed, especially in an era of inter-generational transition.

In sum, the link between jobs creation and environmental management is pivotal for economic development, and presents a strategic and solutions-oriented new policy approach with practical benefits for workers in all communities and walks of life.

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***ABOUT THE JOBS AND ENVIRONMENT INITIATIVE**

The Jobs and Environment Initiative is a pilot program of research, policy analysis and public education. The objective of the Initiative is to examine and demonstrate the links between jobs creation in all sectors of economic activity, including manufacturing, and all aspects of environmental management. The Initiative seeks to describe and analyze current jobs benefits of environmental investment and stewardship; bring further public and policy attention to the strength and scope of the environmental industry; examine potential for further jobs creation; highlight policy opportunities, and improve understanding of the positive contributions of environmental management to economic growth and employment generation, at local, state, regional, national and international level. The Initiative conducts state-based and national reports, and other inquiries, and is a collaboration between Management Information Services, Inc. (www.misi-net.com) and the Building Diagnostics Research Institute (www.buildingdiagnostics.org). The Initiative was founded in 2004 by Paula DiPerna, former President of the Joyce Foundation and Vice-President for International Affairs for The Cousteau Society

The full Wisconsin report, and other Initiative reports, are found at www.misi-net.com. For further information, contact MISI or P. DiPerna at 607-547-8356