

MANAGEMENT INFORMATION SERVICES, INC.

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

SYNTHESIS OF FINDINGS AND POLICY RECOMMENDATIONS

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Highlights from “JOBS CREATION and THE ENVIRONMENTAL INDUSTRY IN MINNESOTA 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 Minnesota, and the nation as a whole.

KEY FINDINGS

MILLIONS OF GOOD JOBS OF ALL KINDS EXIST TODAY IN THE U.S. THANKS TO ENVIRONMENTAL PROTECTION --BUT THIS CONNECTION IS OVERLOOKED

Millions of good stable jobs, including manufacturing jobs, have been created by environmental protection in the U.S., for people in all walks of life--blue-collar, white-collar and high-tech, carpenters, cashiers, electricians, etc.—and continue to be created. Contrary to public perception and policy presumption, environmental protection and jobs creation are not in conflict. On the contrary, the environmental industry has been long overlooked as a major source of current and future employment in the U.S.. “Environmental jobs” cross the spectrum of work activities, and are directly and 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. Similarly, the significant and positive employment role of the environmental industry is not salient for many policy makers at national, state and local levels.

In sum, 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 Minnesota 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 and HAS BEEN RECESSION PROOF

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

And,

- In the late 1970s, when the U.S. economy was reeling from inflationary shocks, record interest rates, energy crises, and anemic economic growth, between 1975 and 1980 EP expenditures grew nearly 60 percent, from \$77 billion to \$121 billion.
- In the early 1980s, when the U.S. experienced the most severe economic recession in half a century, with many industries experiencing depression-level problems, between 1980 and 1985 EP expenditures increased by \$37 billion -- 31 percent.
- During the early 1990s, when the U.S. experienced a relatively mild recession, with GDP declining one percent and unemployment increasing to 7.5 percent, between 1990 and 1995 EP expenditures increased from \$204 billion to \$235 billion -- 15 percent.
- Between 2000 and 2003, while U.S. economic and job growth was generally anemic, the EP industry expanded continuously, growing to \$301 billion.

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

MISI estimates that in 2003:

- Sales of Minnesota's environmental industries totaled \$5.1 billion.
- The number of environment-related jobs totaled more than 92,000.
- The environmental industry in Minnesota comprised 2.6 percent of gross state product.
- Minnesota environmental industries accounted for 1.7 percent of the sales of the U.S. environmental industry.
- Environment-related jobs comprised 3.5 percent of Minnesota employment.
- Environment-related jobs in Minnesota comprised 1.8 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 MINNESOTA, MANUFACTURING JOBS BENEFIT FROM ENVIRONMENTAL ACTIVITIES:

In Minnesota, MORE THAN ONE FIFTH OF PRIVATE SECTOR ENVIRONMENTAL JOBS ARE IN MANUFACTURING, compared to 15 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 Minnesota's manufacturing sector than other sectors. This is especially important in Minnesota, which is one of the most manufacturing intensive sates in the nation and seeks to protect and add to its annual export of \$10 billion per year of manufactured products, an increase of 12 percent annually since 1997. On the other hand, the state like many others that have a significant manufacturing economy, is concerned about losing traditional manufacturing jobs, outsourcing and globalization. Minnesota's 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 MILLIONS 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.—all jobs that lie outside the easily identified classically “green” sector.

HIGH-TECH EMPLOYMENT IN MINNESOTA BENEFITS FROM ENVIRONMENTAL ACTIVITIES

- Eleven percent of Minnesota jobs in the professional, scientific, and technical services are environmental jobs.
- 23 percent of private sector environmental jobs are in professional, scientific, and technical services, compared to five percent of all private sector jobs in the state.

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

This is important in Minnesota especially since the state is among the nation’s seven top technology states with a major emphasis on high-tech products.

BUT ALSO MANY OTHER JOBS IN SURPRISING VARIETY:

In 2003, environmental protection generated in MINNESOTA:

- --More jobs for machinists (265) than geoscientists (127)
- --More jobs for management analysts (829) than environmental engineers (408)
- --More jobs for executive secretaries (771) than for biological technicians (293)
- --More jobs for truck drivers (1,452) than for environmental scientists and specialists (1,324)
- --More jobs for office clerks (2,559) than for refuse and recyclable material collectors (2,323)
- --More jobs for electricians (303) than for occupational health and safety specialists (112)
- --More jobs for customer service representatives (997) than for medical scientists (516)
- --More jobs for security guards (443) than for chemists (243)
- --More jobs for financial managers (365) than for conservation scientists (382)
- --More jobs for computer and information systems engineers (1,839) than for Hazardous material removal workers (718)

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 MINNESOTA, ENVIRONMENTAL INDUSTRY CREATES HIGH QUALITY JOBS IN ALL SECTORS

- 14 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.
- Three percent of private sector environmental jobs are in educational services, compared to two percent of all private sector jobs in the state.

Conversely, in other parts of the Minnesota economy:

- Three percent of private sector environmental jobs are in the retail trade sector, compared to 13 percent in retail trade among all private sector jobs in the state.
- Two percent of environmental jobs are in the finance and insurance sector, compared to six percent among all private sector jobs in the state.
- 3.7 percent of environmental jobs are in the health care and social service sector, compared to 14 percent among all private sector jobs in the state.
- One percent of environmental jobs are in the transportation and warehousing sector, compared to six percent among all private sector jobs in the state.

ENVIRONMENTAL JOBS ARE CREATED THROUGHOUT MINNESOTA

Minnesota's environmental companies are:

- Located in urban centers, suburbs, towns, and rural areas.
- Diverse in size and activities, from 10 employees to thousands

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

BARR Engineering Company has offices in Minneapolis, Hibbing, and Duluth, and provides environmental, engineering, and information technology services to clients throughout the United States and the world.

Braun Intertec provides environmental and engineering consulting and testing services and is headquartered in Minneapolis.

Ecolab is a \$3 billion St. Paul company that is the leading global developer and marketer of premium cleaning, sanitizing, pest elimination, maintenance, and repair products and services for the world's hospitality, institutional, and industrial markets.

ECONAR manufactures geothermal heat pumps and is located in Elk River and Appleton.

ECOsarte Planet Friendly, Inc. is a manufacturer of non-salt, non-chemical water technology and is located in Richfield.

Pace Analytical Services, Inc. is located in Minneapolis and provides analytical and environmental testing services.

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

Summit Envirosolutions is a full-service environmental engineering and consulting firm located in St. Paul.

Terra-Therm is located in New Richland, is the Midwest's largest distributor of geothermal heat pump systems, radiant floor heat systems, and high-efficiency gas and electric radiant floor water heaters.

TSI Incorporated in Shoreview, designs and manufactures precision instruments used to measure flow, particulate, and other key parameters in environments.

West Central Environmental Consultants, located in Morris, is a full service environmental company that offers a complete range of services relating to the detection, assessment, and remediation of above and below ground pollution

Wind Turbine Industries Corporation and its sister company Prior Lake Company manufacture, assemble, market, and service Jacobs® wind turbines

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

The nexus between jobs creation and environmental protection can constitute the “next tier” of environmental and economic development policy in the U.S., i.e., take environmental protection activities to a level more integrated with economic policies to maximize the socio-economic benefits of environmental investments. 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, including in anti-poverty efforts. 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 Minnesota. On the contrary, the state’s commitment to research and development and high-tech focus enable it to take maximum advantages of the jobs creation potential inherent in the state’s environmental industry. Also, the state’s existing environmental policies can better maximize environmental jobs creation in the state, for example, the Minnesota Sustainable Development Initiative. However, what is still needed is more “cross-over” so that the environmental industry in its broadest sense becomes integral to the state’s ambitious economic development plans. With such cross-over, the value of environmental management can be brought to bear on traditional economic development and unemployment policies. Most state governments do not achieve this crossover.

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.

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

- Centralize a jobs creation focus in the Minnesota Sustainable Development Initiative
- Integrate environmental jobs creation in “Governor’s Forums: Citizens Speak Out” public interactive discussions sponsored by the Minnesota Pollution Control Agency (MPCA)
- Establish staff focus on environmental jobs creation within the Governor’s Council on Workforce Development
- Convene a congress on environmental jobs creation through the Minnesota Environmental Quality Board, which has such authority and format

- Name an MPCA Board member to focus on environmental jobs on the MPCA Citizens Board
- Establish an environmental jobs focus within the Environmental and Natural Resources Trust Fund
- Integrate a strong environmental jobs focus to the new Minnesota Renewable Hydrogen Initiative
- Examine special jobs creation benefits of long-term fresh water protection, including groundwater standards
- Establish a jobs and environment focus for grants of the Office of Environmental Assistance
- Expand and highlight available incentives for environmental companies through the Minnesota Business Subsidies Law
- Highlight the important role of the environmental industry in the state's Emerging Principles in State and Local Development strategy of the University of Minnesota Humphrey Institute
- Undertake a public education campaign on "Environmental Jobs Creation in Minnesota" to better communicate the existence, strength, vitality and products of Minnesota's environmental jobs and the companies that provide them
- Create an Environmental Jobs Association in Minnesota, 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 Minnesota 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 Minnesota report, and other Initiative reports, are found at www.misi-net.com. For further information, contact MISI or P. DiPerna at 607-547-8356