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JOBS IN THE ENVIRONMENTAL INDUSTRY IN OHIO AND THE U.S. --SYNTHESIS OF FINDINGS AND POLICY OPTIONS

by Paula DiPerna, Founder, Jobs and Environment Initiative

Highlights and Policy Recommendations based on Jobs and Environment Initiative report, "JOBS and THE ENVIRONMENTAL INDUSTRY IN OHIO AND THE U.S." prepared by Management Information Services, Inc. (MISI) Washington, D.C. for the Building Diagnostic Research Institute, Chevy Chase, Maryland (May, 2004)*

ENVIRONMENT INDUSTRY IS MAJOR EMPLOYER, OVERLOOKED IN U.S.

Environmental protection and jobs creation go hand in hand, and are not in conflict, contrary to general public perception. Indeed, the environmental industry has been overlooked as a major source of employment in the U.S. for many decades. Environmental management, regulation and investment creates and protects jobs at a significant level, contrary to long-held policy presumption. Environmental jobs exist across the spectrum of work activities, and may be directly or indirectly created. This report defines "environmental jobs" as those which, "as a result of environmental pressures and concerns, have produced the development of numerous products, processes and services, which specifically target the reduction of environmental impact."

Recognizing the environmental industry as a major source of employment and long-term asset development would be a strategic step toward further socio-economic advancement and environmental stability and enhancement.

IN OHIO, ENVIRONMENTAL INVESTMENT LIKELY TO GENERATE HIGH-LEVEL MANUFACTURING JOBS

Jobs creation and environmental investment are not only compatible, they are strongly synergistic, with dollars invested in environmental spending likely to generate greater than proportionate jobs benefits—in all sectors of the economy, including manufacturing. In fact, in Ohio investments in the environment are likely to provide a greater than proportionate assist to Ohio's manufacturing sector than to other sectors.

Each day in Ohio, and the nation as a whole, 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.

*For further information, contact Paula DiPerna, 212-688-0942; MISI, or see. www.misi-net.com

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

For perspective, the size of environment-related employment 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

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.

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 Ohio is likewise not fully appreciated.

Nationally, the environmental “industry” ranks well above those in 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.

IN OHIO, THE ENVIRONMENT INDUSTRY IS A MAJOR EMPLOYER AND MAJOR ECONOMIC PLAYER, INCLUDING IN MANUFACTURING;

In Ohio, in 2003 alone:

- Sales of the environmental industries in Ohio totaled \$12.2 billion
- The number of environment-related jobs totaled more than 176,000
- The environmental industry in Ohio comprised 3.2 percent of gross state product
- Environment-related jobs comprised 3.3 percent of Ohio employment
- Ohio environmental industries accounted for 4.1 percent of the sales of the U.S. environmental industry
- Environment-related jobs in Ohio comprised 3.5 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

What is especially interesting for a manufacturing-based state such as Ohio is that a high percentage of environmental jobs are found in the manufacturing sector, i.e., nearly one-third of private sector environmental jobs are in manufacturing, compared to less than 20 percent of all private sector employment. For a state that has been losing traditional manufacturing jobs, and is worried about outsourcing and globalization, the presence of a vibrant environmental industry can be maximized, with significant potential jobs benefit for manufacturing workers.

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.

JOBS AND THE NATIONAL ENVIRONMENTAL INDUSTRY

The MISI report presents information about the jobs creation impact and potential of the environmental industry in the state of Ohio, as well as background information on the jobs impact of the environmental industry in the nation as a whole. The report found that the environmental industry is a major player in both the state and national economy,

and that the direct and indirect jobs creation potential of the environmental industry is significant, multi-sectoral, under-appreciated, and could be maximized for broad socio-economic and environmental benefit.

This report summarizes MISI findings on the national environmental industry. MISI research has found that 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.

It is likely that 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

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, machine tool operators, mechanical and industrial engineers, welders, tool and die makers, mechanics, managers, purchasing agents, etc.

IN OHIO, THE ENVIRONMENTAL INDUSTRY IS A SIGNIFICANT EMPLOYER, GENERATING NEW JOBS AS WELL

The report demonstrates that environmental protection is a significant and growing industry in Ohio. Most of the environment-related jobs in Ohio are in the private sector, and these are heavily concentrated in several sectors, including manufacturing, professional, scientific, and technical services, and educational services.

Environmental jobs in Ohio are widely distributed through all occupations and skill levels and, while the number of jobs created in different occupations varies substantially, requirements for virtually all occupations are generated by environmental spending. Thus, in Ohio as in the U.S. generally, the vast majority of the jobs created by environmental protection are standard jobs for all occupations.

ENVIRONMENTAL MANAGEMENT CREATES A SURPRISING VARIETY OF GOOD JOBS

The importance of environmental protection for jobs is obviously greater for some occupations than others. One would expect that for such occupations obviously linked to environmental activities, such as environmental scientists, engineers, hazardous materials workers, water and liquid waste treatment plant operators, employment demand would be largely dependent on environmental protection activities.

However, for many occupations not traditionally identified as environment-related, a greater than proportionate share of the jobs are also generated by environmental protection.

For example, in Ohio, environmental protection generates:

- More jobs for welders (385) than for biochemists (43)
- More jobs for office clerks (5,301) than for environmental engineers (1,470)
- More jobs for executive secretaries and administrative assistants (3,467) than for hazardous materials removal workers (1,240)
- More jobs for bookkeeping and accounting clerks (2,536) than for environmental scientists and specialists (2,490)
- More jobs for plumbers (353) than for health and safety engineers (140)
- More jobs for janitors (2,000) than for environmental science technicians (950)
- More jobs for customer service representatives (2,716) than for environmental scientists and specialists (2,490)
- More jobs for machinists (675) than for landscape architects (140)
- More jobs for inspectors and testers (1,152) than for chemists (621)

IN OHIO, MANUFACTURING JOBS ARE GENERATED BY THE ENVIRONMENTAL INDUSTRY

Of particular note is that the environmental industry in Ohio is more manufacturing intensive than other average private sector activity in the state.

- 29 percent of jobs in the environmental industry are in manufacturing, compared to 18 percent in manufacturing among all private sector industrial activities in Ohio

Conversely, there are relatively few environmental jobs in other sectors of the Ohio economy:

- Less than one percent of environmental jobs are in the retail trade sector, compared to 13 percent in retail trade among all private sector jobs in the state.
- Less than one percent of environmental jobs are in the finance and insurance sector, compared to 5 percent among all private sector jobs in the state.
- Less than one percent of environmental jobs are in the transportation and warehousing sector, compared to 3 percent among all private sector jobs in the state.

THE ENVIRONMENTAL INDUSTRY ALSO GENERATES HIGH-TECH JOBS

Assessing the portion of total state employment in each industrial sector accounted for by environmental jobs indicates that the 176,000 environmental jobs account for about 3.3 percent of the total 5.4 million jobs in Ohio. However, this distribution is concentrated among the high tech or highly skilled sector:

- Nearly 23 percent of employment in the utilities sector consists of environmental jobs, primarily water, waste treatment, sanitation, and related facilities.
- Nearly 10 percent of public administration employment in the state consists of environmental jobs.
- More than 11 percent of Ohio jobs in the professional, scientific, and technical services are environmental jobs.
- About 3.5 percent of the state's manufacturing employment is environment-related – slightly higher than the 3.3 percent average for environmental jobs of total state employment.

- 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.

ENVIRONMENTAL EMPLOYMENT IN OHIO CAN BE FOUND EVERYWHERE, IN A WIDE RANGE OF FIRMS

Environmental companies in Ohio:

- Are located throughout the state, in major urban centers, suburbs, small towns, and rural areas.
- Range in size from small firms of 25 employees to large firms employing thousands
- Are engaged a wide variety of activities, including remediation, manufacturing, testing, monitoring, analysis, etc.
- Include some of the most sophisticated, high-tech firms in the state; for example:
 - Forry, Inc. (Chargin Falls) is the largest supplier of end use particulate process controls in the U.S.
 - Venture Lighting (Solon) is a world leader in the manufacture of energy efficient metal halide lighting systems.
 - Wastequip (Cleveland) is North America's leading manufacturer of waste control products.
 - YSI, Inc. (Yellow Springs) is a leading provider of environmental sensors, monitoring, and data products.
 - First Solar, LLC (Perrysburg) is a leading U.S. manufacturer of solar photovoltaic modules.
 - Aqua-Tech Environmental Laboratories, Inc. (Marion) is one of the nation's foremost environmental testing and analysis companies.
 - Environmental Quality Management, Inc. (Cincinnati) is a leader in U.S. environmental engineering and remediation

A number of these firms, including Venture Lighting, Forry, and Gelles Laboratories (Dublin) have created significant numbers of new jobs over the past six months, and First Solar is in the process of quadrupling its manufacturing capacity – at a time when Ohio has been hemorrhaging jobs, especially in manufacturing.

RECOMMENDATIONS: JOBS CREATION AND THE NEXT TIER OF ENVIRONMENTAL and ECONOMIC DEVELOPMENT POLICY

Policy Options—Background and Perspective

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.

Each State Should Create a Jobs and Environment Task Force

Still, strategic policy options exist for the nation as a whole and all states, even counties. A critical immediate recommendation would be for all 50 states to create a “Jobs and Environment Investment Task Force,” 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. As the above data and the Ohio report make clear, investments in environmental spending will pay significant dividends in jobs creation and workforce development in all sectors.

In Ohio, some specific policy suggestions would be:

- 1) An “Environmental Jobs and Manufacturing” Summit, convened by the state of Ohio, with an ongoing jobs focus on the jobs-environment nexus in any annual state-policy session on manufacturing and outsourcing.
- 2) Integrating an aggressive environmental jobs component in all of the following initiatives: The Third Frontier Project; Research and Development Investment Loan Fund; Clean Ohio Fund; Edison Technology Centers; Innovation Ohio Loan Fund; Technology Investment Tax Credit Program; Energy Efficiency Skills for Professionals program, and others.
- 3) An “Ohio’s Environmental Jobs” public education campaign to better communicate the existence, strength, vitality and products of Ohio’s environmental jobs and the companies that provide them
- 4) An aggressive recruitment campaign to attract environmental businesses to Ohio and to highlight the leadership role of many of Ohio’s current environmental firms.

5) A specific initiative focused on jobs creation in the water sector, to improve drinking water reliability, reduce waste, and improve water infrastructure throughout the state.

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

Finally, the Ohio Jobs and Environment study has demonstrated that a ripe breakthrough opportunity exists for Ohio and other 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.

No state in the U.S. has yet to fully realize this potential. 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 Ohio to such an approach. There is some precedent in fact: state assistance has helped support a commercial fuel cell industry and low-interest loans have helped the Ohio firm First Solar to increase its photovoltaic manufacturing capacity fourfold—and its jobs creation. Such environment-related initiatives should be encouraged and expanded, with the potential for substantial jobs creation.

However, these pro-active policies have brought economic intervention to bear on traditional “green” activities; 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.

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, thus expanding and diversifying the voice in favor of environmental protection nation-wide, much needed, especially in an era of inter-generation 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.