

Green Innovations 2009

Environmental Management & Business Institute

University of Wisconsin – Green Bay

Speech by Larry L. Weyers

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Green Energy

Thank you.

It is my pleasure to be here today for the dedication of the Environmental Management and Business Institute. I congratulate the University of Wisconsin – Green Bay on this historic day and significant milestone in building the future.

It is also my pleasure to be on the same stage as Bob Willard. I have read his two most recent books and I recommend both to all of you. Ralph Waldo Emerson once said “Common sense is genius dressed in its working clothes”. I believe there is a lot of genius in Bob’s arguments and he illustrates the genius with uncommon, common sense.

The sustainability of our planet is as important a goal as we have ever had. In the 1950’s we feared it was not sustainable because of the destructive power of the nuclear weapons arsenal that prevailed and the cold war with the Soviet Union. The governments around the world have resolved that concern, at least for now. I believe the current threat to sustainability requires the involvement of business. This will happen more readily if we speak the language of business and develop compelling-business-value as a driver of sustainable activity, as Mr. Willard suggests.

Developing that compelling business-value argument requires our diligence. It is not an easy task.

Management teams and Boards of Directors across America are “being squeezed” between pressures such as competitive pricing, quarterly earning results, environmental stewardship, and sustainability. They face decisions with real consequences. For example, in the energy industry, electricity, which is a vital resource for all of us, can be supplied from renewable resources such as wind, solar, geothermal, hydro, and biomass. With today’s technologies, the electricity from new renewable resources costs consumers more—sometimes double or triple. This presents a dilemma for decision makers.

Let’s take a moment and let me take you into a board room and make you the decision makers so you can perhaps experience the dilemma.

If you are a Board member, how would you address the questions?

- If we want to create a new or different product or revise a process to enhance sustainability, how much can we afford to increase our product price?
- Are customers willing to pay 10%, 30%, 100% or 200% more for a product to ensure it is completely renewable? What will our competitors do?
- What level of risk can we take regarding the unknowns of regulation, legislation, and technology development?

- Will our shareholders and bond holders support the risk profile?
- How long before new technology is viable—both operationally and economically?

These are questions that create the dilemma. These are questions that require a compelling business-value argument.

Bottled water provides another interesting decision for some businesses. Consumers have created a demand for the product, and businesses have responded with supply. The result may be good for our level of hydration, but not so good for the environment, compared to drinking tap water.

Just like you, the members of these management teams and boards of directors want to make the right decision and do the right thing. I have been there—on management teams and in the Board rooms in the energy industry, where I have devoted most of my career. I have also been in the board rooms of my customers; paper companies, banks, medical care facilities, insurance companies, the entertainment industry, and numerous not-for-profit organizations. I also served with other business leaders on the Governor's Task Force on Global Warming. These business leaders and board members are aware and actively engaged or prepared to be more involved.

A recent survey by the Nicolet National Bank sheds light on the issue of involvement. The Nicolet National Bank Business Pulse reported recently that CEOs in northeast Wisconsin do not see the green movement as a fad. Seventy-eight percent of

those responding believe green is here to stay, and only 22% believe it is a short-term fad. Over ¾ indicated green is the right thing to do even if it costs them a little more.

These CEOs are also doing something to positively impact the environment. About ¾ of these CEOs reported that they had increased their recycling efforts, 77% have increased energy efficiencies in their facilities lighting and heat systems, 70% have recycled their computer hardware, 56% use recycled materials, about 25% indicate they have reduced their water use, 18% say they use energy efficient cars, 17% have reduced their emissions, 16% have reduced their use of pesticides, and 12% use renewable energy. Approximately 9% have also used the Leadership in Energy and Environmental Design Certification – LEED Certification -- for their building designs. I can add that all the recent facilities Integrys has constructed are LEED certified. We now have or are working on four new facilities with this designation. Building standards are particularly important because the building stock does not turn over rapidly.

Engaging business is a necessary and important step in creating a sustainable model. This may be the easy part compared to convincing the general public.

The PEW Research Center recently conducted a poll and found the environment was given a top priority by only 41% of the population and less than one-third ranked global warming a top priority. Global warming ranked last among 20 priorities while, not surprisingly, 85% of Americans ranked the economy the top priority. It seems we are all focused on the recession, the economy, jobs, and 401(k)s. If we are to be successful with sustainability, we must improve the awareness and the commitment of the masses.

Let's turn our attention to the energy industry. I have worked in the industry for my 35-year career, so I understand that our industry impacts the environment as part of providing the essential services of light, heat, and power. The energy industry must be involved in a big way in any sustainable initiatives, since we are a major source of CO₂ emissions today. In 2003, 34% of greenhouse gas emissions in Wisconsin came from the utility sector. An additional 14% came from industrial energy generation. The energy industry must be involved by switching generation sources to more sustainable sources and working with customers to help them use energy more efficiently. This will require the melding of technology, communications, markets, and regulation. The molding will take time, but I am told there are hundreds if not thousands of new, smart devices available today that help control energy usage. So the technology has been jump-started. The communication channels are also available with numerous electronic channels that can be used to communicate with the smart devices. The markets for these devices have not yet been developed and the regulation has not yet caught up with the technology and communications development.

Electric energy supplies a large percentage of our energy needs. We use it to power modern society with critical items like: lights, water pumps, life support equipment, elevators, furnaces, and mass transit. It is critical to our lifestyle. We take it for granted until it isn't there when we flip the switch. Then we realize that the microwave doesn't work, the garage door is now a device requiring manual labor, and the beer in the refrigerator starts to get warm.

A lot of attention has been given to energy in recent months for several reasons:

- Gasoline prices are volatile and higher than we like.
- Prices for electricity and natural gas have increased.
- There is concern about security for our national energy needs, and
- Global warming has become a lightning-rod issue.

Given today's technology, there are only a few options available to supply our electric energy demands:

- Coal, natural gas, nuclear, and renewables such as wind, solar, biomass, hydro, and geothermal are options for generation. The final option is energy efficiency, which includes conservation, reduced demand, and improved codes, standards, and related technology. All of us have our favorite option and are perhaps biased against a few of the others, but if we really believe that global warming is happening, that humans are causing it, and that we are quickly approaching a tipping point beyond which recovery is either impossible or impractical, then we must consider all the options. They must all be on the table. Under that scenario we cannot afford to let any option go without careful consideration.
- In Wisconsin it is currently not possible to build a nuclear facility. New coal plants are still allowed but virtually impossible to build. Renewables have faced opposition as individuals in communities have objected to the proposed wind turbines and transmission lines near them. New sources of energy from hydro facilities cannot be counted as renewables if those facilities are 60MW or greater. There is a lot of work to be done in

Wisconsin if all the options are to be given equal consideration. All options must be considered for sustainability.

Alternative energy will play a larger role in supplying our energy needs in Northeast Wisconsin. Wind generation is the most popular now and we will see many more wind turbines installed. The issues with wind are price, impact of a variable resource on the grid, and siting. The technology has advanced rapidly in recent years.

Energy from biomass will be used in this part of the country. Biomass technology on dairy farms is developing rapidly. Other forms of biomass generation using switchgrass and other crops will play a role, although small because they require combustion which emits gases and they impact other parts of our food chain.

Solar power is growing but still requires subsidies. Technology continues to make this option more attractive particularly in places like Arizona. Our company has invested more than \$50 million in solar installations in the past two years, but not in Wisconsin.

Hydro power is well developed in the United States. There are few opportunities to create additional sources and there are supporters of taking out existing dams.

Geothermal will be used extensively where possible. If you expand the definition to include temperature differences at various levels in the earth, it will get broader use.

Fuel cells are not as promising as once thought although research continues on this technology. The volatility of natural gas prices has impacted the development of fuel cells.

Energy efficiency is a non-supply option. In the energy business we have a unique business model where we educate our customers on how to use less of our product. You won't find that dynamic in most businesses. Our corporate environmental vision states our desire to, "Create energy solutions for a sustainable tomorrow". To do that we are engaged in educational initiatives for customers and calling on regulators to provide the innovative rate structures such as decoupling.

The Governor's Task Force on Climate Change recommended several policies to aggressively promote greater energy conservation and efficiency. This includes enhancing Wisconsin's existing Focus on Energy program with more challenging goals and substantially increased funding. Today, Wisconsin's utilities provide Focus on Energy with \$80 million annually for energy efficiency and conservation programs. This is scheduled to nearly triple by 2015. The task force also asked for a review of building codes for new and existing building and efficiency standards for appliances.

On the supply side, the task force recommended that the amount of electricity produced from renewable resources be increased to 25% by 2025. This will require a multi-billion dollar investment by the state's utilities in new wind farms and the transmission associated with servicing those wind farms. They suggested that statewide standards be adopted for siting wind projects. This will reduce the impact of

the “NIMBY” effect overriding local siting oppositions with statewide standards. They recommended studies for carbon sequestration and off-shore wind power plants on the Great Lakes.

The task force also recommended Wisconsin's current moratorium on the construction of new nuclear power plants be removed in order to allow this option to be considered for future generation needs. However, the language is couched with several pre-conditions that must be in place before the moratorium is lifted. Policies for conservation, efficiency, and renewable energy must be in place first. Also, a determination by the Public Service Commission that nuclear power is safe, economical, and in the public interest must be made. My concern is that this option will not be given a fair evaluation even though the nuclear option may be needed to reduce or stop global warming.

There is certainly much more to do in Wisconsin to further a sustainable model, but there is also much activity. The new Environmental Management and Business Institute here at UWGB will improve our understanding of the issues, provide more knowledgeable minds to address the problems, and nurture the entrepreneurial minds required for success.

In Wisconsin we are fortunate to have a university system providing leadership in using energy more efficiently and integrating environmental responsibility and sustainability across the Wisconsin University system. This is certainly true at the

Universities of Wisconsin located in Green Bay, Oshkosh, and Stevens Point, our partners in several efficiency and sustainability initiatives.

All three institutions have hosted our annual solar energy competition for high schools called Solar Olympics, part of our SolarWise® for Schools program. This educational program provides solar-electric systems and a curriculum package to high schools served by our utility.

All three UW campuses that we serve also make voluntary purchases of renewable-based electricity through our NatureWise® program. UW-Green Bay students, for example, pay about \$1.65 extra per semester for NatureWise to add 10% renewable resources to the university's energy mix. We have also worked with the three campuses to meet the governor's goal of becoming independent of the energy grid by 2012.

Forty years ago UWGB was acclaimed as America's first environmental University. Since then, UWGB has offered inter-disciplinary, problem-focused education crossing traditional academic boundaries. They have produced strong programs and strong enrollments in the environmental sciences and are poised to lead efforts for a sustainable future. I support Chancellor Ward in his efforts to lay claim to the title, "Eco U for the 21st Century".

In recent years we have worked with UW-Green Bay to incorporate renewable energy and energy efficiency into their building designs. Today, the Mary Ann Cofrin

Hall has solar-electric panels built into the building's windows and roof that capture solar energy. We also provided input during the construction of the Kress Events Center, a building that meets LEED Silver standards for green buildings.

The NewNorth organization has a sustainability committee. Part of the vision is to be a catalyst for sustainable practices through projects, conferences, and workshops developed through their subcommittees which are organized around:

- Agriculture & rural landscapes
- Healthy & sustainable lifestyles
- Brownfield redevelopment
- Transportation
- Research including case studies and story telling

New North is represented here today by Jerry Murphy, Executive Director, and Paul Linzmeyer, Chairperson of the Sustainability Committee.

On the national scene there is much activity. The Obama administration has declared carbon dioxide and five other so-called "greenhouse gases" as threatening to the planet. It is now likely that we will either get new regulations from the Environmental Protection Agency or new legislation from Congress that will impact American lives everywhere. These developments have the potential to impact the homes we live in, the automobiles we drive, and the cost of the energy we use.

Limitations on carbon dioxide emissions will be more difficult for the Midwest where electric generation comes primarily from coal. The coastal regions of the United

States are more heavily fired by natural gas and will not be impacted as greatly as the Midwest. The outcome will depend on the final rules that are developed, but it is likely that generation of electricity will decrease in the Midwest and increase on the coastal regions. The cost of energy will increase dramatically. American Electric Power, the largest coal generation utility in the United States, estimates that rate increases will stretch from 25% to 50% depending on the final strategy emerging from Washington.

In spite of these concerns, I believe there is considerable support from business for addressing environmental issues and developing a sustainable model. The trade association for the electric industry, the Edison Electric Institute, debated the issue of global warming for several years, but eventually determined that they would support efforts to reverse global warming through greenhouse gas reductions. They want to be part of the solution, and in fact, want to be in a leadership role in resolving concerns about the energy industry. In general, I believe business leaders, at least in our industry, want to do the right thing, but they grapple with the dilemma of rising costs for customers, the uncertainty of regulation and legislation, and the impact on the economy. Leaders in our industry are searching for the right paths to get us where we need to be. This is why development of compelling business value as a driver is so important to our efforts.

What will it take for us to be successful in reaching sustainability? It will take a broad-based effort involving entire communities, businesses, and industries in initiatives such as those already identified and in new initiatives we can't even envision yet. We

must all become involved. Nelson Mandela reminds us that “you can never have an impact on society if you have not changed yourself.”

Change is a necessary ingredient for all of us. Communities must commit to increased recycling in order to reduce the amount of new materials that must be manufactured to support our lifestyle. It will take increasingly stringent building codes so that buildings become more energy efficient and reduce the energy required as well as the emissions associated with that energy production. These changes will provide significant obstacles for our progress but there will also be opportunities for business-- opportunities for energy efficiency, conservation initiatives, new technologies, new research, and new educational programs. All of those opportunities must be exploited in order to provide the most compelling business-value driver possible for sustainable activity.

Success will require all industries to participate. We have already discussed the energy industry.

The transportation industry will have to shoulder a significant part of the effort. Transportation was responsible for 24% of Wisconsin’s greenhouse gas emissions in 2003. The Governor’s Climate Change Task Force recommended more stringent greenhouse gas standards for cars, light trucks, and SUVs. These would be standards more stringent than the federal standards and could be similar to the “California car” emission standards. They also recommended standards for off-road equipment and

idling of freight trucks. They suggested increased investment in mass transit and increased transportation planning should be considered.

One of the promising technologies affecting transportation is the plug-in hybrid electric vehicle. This technology has great promise and does a lot to protect the environment.

The policies that will be adopted are not yet clear but it is clear that consumers will have an incentive to decrease the size and weight of vehicles we drive and change the power sources for those vehicles.

The industrial sector accounted for 15% of Wisconsin's greenhouse gas emissions in 2003. The industrial sector will have to reduce its use of energy per unit of output. Industries may have to revise their product line to consider only products that are energy efficient, environmentally sustainable, and economically sustainable for them. Linda Fisher, VP & Chief Sustainability Office at DuPont, reported at the Wisconsin CEO Forum on Addressing Climate Change and Achieving Energy Independence that DuPont has adopted these criteria for their product lines.

Wisconsin's agricultural industry is already involved. It is Wisconsin's largest industry. The dairy segment alone contributes almost \$21 billion to the state's economy. That's more than twice as large as Florida's citrus industry and nearly nine times bigger than Idaho's potato industry.

Innovative dairy farmers are taking the renewable resource that their cows produce every day – manure – and are using anaerobic digesters to produce and capture methane, which is burned to generate green electricity. Methane, by the way, is a greenhouse gas. It is 12 times more effective in trapping heat in the atmosphere than carbon dioxide.

Northeast Wisconsin is a leader in digester technology, with more digesters than any other region of the state. For example, Wisconsin Public service alone has six in its service territory and 10 more are currently in the planning stages. One of our customers, Holsum Dairies, also participates in the TerraPass program, where people can purchase carbon offsets based on the methane captured on the farm.

Already anaerobic digesters are helping reduce and reuse resources. Manure that's gone through a digester becomes a higher quality organic fertilizer that's more available and less harmful to crops. This means farmers can purchase less commercial fertilizer, which uses valuable natural gas to produce it.

The digestion process also eliminates almost all of the manure's odor, helping improve air quality. It also destroys very small seeds in the manure, allowing farmers to use fewer herbicides. And the digested solids can be dried and used for livestock bedding and potting soil. This is a great example of business value offering a compelling driver for sustainable activity.

Let me give you one final example of agricultural innovation. One of our state's dairy farms is the first in the nation to install an industrial grade water purification system. This can actually filter a portion of the liquid manure and turn it into pure distilled water which can be used to water livestock or irrigate crops. This is just the beginning of vertically-integrated on-farm systems designed to make sustainability possible.

The Climate Change Task Force has provided recommendations that will have implications for nearly all businesses in Wisconsin. The Task Force recommendations were developed in the spirit of cooperation, collaboration, and compromise. Nearly all segments represented have some of their ideas included in the recommendations and nearly all segments involved are swallowing hard with recommendations they opposed. There will be negative impacts such as price increases for energy, improved codes and standards which may also drive up costs for our lifestyle, and standardized siting regulations which may impact the community in which we live. There will also be opportunities for businesses that provide new services required to implement the recommendations of the Task Force. New initiatives in energy efficiency, education, research, technology, and conservation will emerge. Success in implementing these recommendations will also provide benefits in the form of an improved environment and the knowledge that we are creating a more sustainable future.

As Bob Willard points out in his latest book, the movement for companies operating in Stage 3: beyond compliance to Stage 4: Integrating sustainability into their

strategy will not be easy, but the rewards of success are great. We can all aid that movement and be part of the solution.

The good news is that attaining sustainability is still possible. We have not reached the tipping point. The required changes may seem great. That is where ingenuity, innovation, and education come in. This is where the University of Wisconsin-Green Bay's new Institute comes in. You have already heard there is a business case for reaching sustainability. It is the right thing to do. Now we just need to combine our genius and common sense for a sustainable green future.

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