

Keynote Speech

## **Sustainable Industrial Development: The History of an Idea and What to Do about It**

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### **1 Introduction**

It is with great pleasure and humility that I am here before you today. I am looking forward to presenting information from my experiences in the area of industrial and ecological development. In the United States at this time it is very difficult to convince the national planners of the importance of sustainable development. I'm hoping that by reaching out and learning a great deal from people here today and that we could build a comradeship and work mutually together.

In the United States the federal government is not the only government. In fact, we have over 10,000 local governments in the United States and this is where sustainable development is happening. The greatest fear for those advocates of sustainable development is that the federal government will preempt the local activities. I am hoping that when you hear the excitement that's happening at the local level, businesses as well as community, you will work with us to try to convince our national government to move in this direction.

### **2 Deterioration of the Environment**

Let me start out by pointing out that the concept of sustainable economic development is not new. In fact, at the very dawn of industrial development in the late 1700's the debate on sustainability was fully engaged. It wasn't called "sustainable development." It was called "the steady state economy." This debate occurred in the 1840's and the 1850's, but most recently in our time Professor Herman Daly of the World Bank, and now a professor at the University of Mary-

land, has written extensively on this subject and I have learned a great deal from him. The problem of the steady state economy and the problem of the sustainable development field that we are in today is the problem that we're all facing. We want industrial development. We want its creativity, its entrepreneurship and of course we want to enjoy the products of modern production, but at the same time there is a destructive side to industrial development and industrial activity. Those side effects on the economy and our society, our social problems, are exacerbated by uncontrolled industrial development, that is, industrial development that is not informed by the ecological and social requirements of our people.

I think the situation we are all in is getting worse. We know that there's 20% more carbon dioxide in the air than 1945, when I was born. No one knows the implications of this. We know from the Algalita Marine Research Foundation in California, which tests waters every year throughout all oceans in the world, that there are six times as much tiny plastic particles than plankton, which is the source of all life and the beginning of the food chain. The problem is that fish eat these small pieces of plastic, fill up their stomachs and starve to death. As a result we have seen the decline of many species of fish, which has recently been reported in studies which I can refer to later.

I shouldn't say more troublesome, but equally troublesome is the scientific understanding of how genetics interacts with the environment. Up until 5 or 10 years ago people thought if you had good genes then you didn't have to worry about environmental

pollution. You'd be protected. However, recent science has taught us that environmental contamination effects how genes work in our body. When genes are supposed to express themselves to protect the body or help the body grow, environmental pollution restricts the function of the genes. So it is not a question of genes versus environment. The problem we are facing is our genes and the environment.

Finally, in terms of the warning signs that we are in deep environmental trouble, again since 1945 males' sperm has declined on average by over 50%. When we're dealing with human birth and the food chain, we are at tremendous risk. I could also point out in terms of young children developing that many of these dangerous pollutants concentrate in breast milk, so by the very natural activity of breast feeding our children we are introducing very dangerous chemicals into their bodies.

### 3 Need for New Rules

I am not an environmentalist. I grew up in industry and I still work in industry. I work with businesses both small and large. So my concerns are not environmental concerns primarily. My organization ILSR (Institute for Local Self-Reliance) is an industrial development organization, but we pay attention to the environment because we understand that without air water and soil there can be no industry at all.

So our conclusion at ILSR is that we need new rules for industrial development. The primary reason why we need new rules is because the old rules are not working anymore. This is primarily because the environment is not represented in the marketplace. People who are making investments do not have the full picture of the implications of their investment, and this is beginning to change. Most recently a major Wall Street firm, Goldman Sachs, has decided not to invest any money in projects that don't respect the environment. This is a major breakthrough, but we need to do more.

Currently, traditional industry considers the envi-

ronment a warehouse of free or cheap resources and a sink to dump their waste. This has to stop, and the only way to stop this is to account for the economic as well as the social costs of environmental pollution. The key here is to bring the price of industrial development equal to the cost of industrial development. This is not the case. For example, in the U.S., it is very inexpensive to put solid waste in a landfill. By raising the cost of the landfill we increase the value of recycled materials, because recycled materials in the waste stream have a negative value. If we don't recycle them we have to pay to put them in the landfill or incinerator.

I have one final point about markets. In the U.S., the traditional industrialists believe that the free market was created by God. We believe that the market is created by the loophole and subsidy you get out of Congress. Until those subsidies are switched from investment in traditional ways of doing business to sustainable ways of doing business the trend that we are now living through will continue.

### 4 History of Environmental Movement in the United States

Let me now briefly point out in my country the four stages of the environmental movement. In the 1800's our first environmental movement was wilderness preservation. The result of this is our great national parks that were created at the end of the 1800's. In the 1960's the environmental movement in the United States started focusing on toxic releases into the environment. Some of you may have heard of the book by Rachel Carson *Silent Spring*, which was published in 1965, which had tremendous impact throughout the country. This was the beginning of our environmental laws. In 1985 the concept of sustainable development was introduced, mostly by corporate executives and national leaders. This concept of sustainable development was almost immediately rejected by traditional industry but it was accepted by community and small businesses.

So we now really have two definitions of sustainable development. One definition, the community sustainable development, which I work in, argues for new rules that will not allow pollution. The initial, traditional concept of sustainable development is to do something that makes you look good but don't change the system. I could give you several examples. Most recently Coca-Cola, Monsanto, Shell, Wal-Mart and other corporations have won major awards for their environmental sensitivity. Yet, when you look at their activities you find that their sustainable efforts are a tiny portion of their overall efforts. We call this "green washing" or "ideological indoctrination." Ideology is the presentation of a system of ideas to prove your position, whereas science is a neutral investigation. We find that the ideologically-driven companies that are using the label "green development" are actually fooling us. This is a very important fact because of the, shall I say, vulnerability of Americans to this type of ideological propaganda.

## 5 Global Trends of New Rules

However, we are getting tremendous amounts of help. We are getting help from Europe, mainly because of new laws and new rules that have been passed by the European Union. One of these new rules, and there are many of them, are restrictions on hazardous substances (ROHS). It requires that a product has to be tested for its hazardous content before it is put on the market. This has a tremendous impact. In the United States at this time you could put your product on the market and you may be asked to pull that product from the market only after it has affected people.

In this regard, I must congratulate Japanese industry. When the European directives on computers were passed in 2005 (it takes effect this year) there was only one company in the world that could produce a computer without hazardous waste and designed for recyclability, and that was a Japanese industrial company. In the United States right now the computer

manufacturers have to make a decision-do I make one clean computer to sell in Europe and the United States or do I make two computers, one clean for the European market and one dirty for the American market? This is a very real decision that is being made at this point among American corporations.

Another reason for the urgency of our concern for sustainable development is that the process of industrialization is accelerating. Let me give you an example. When the United States went through the industrialization process, the population was about 80 million people. When Japan went through the industrialization process it had a population of about 50 million people. When Europe went through the industrialization process it had a population of maybe 100 million. However, right now we are witnessing the rapid industrialization of India and China, which have about 3 billion people. If 3 billion people go through this process, it is unclear if the Earth can sustain this activity. Hence we have to make haste, but we must make haste slowly to make sure that we do the right thing.



## 6 New rules in the United States

Let me give you an example of some of the new rules in the United States that are being passed and implemented by cities and states, mainly because the federal government has refused to take these actions. Some states have passed a fuel security act which requires that all vehicles sold in those states have flexible fuel capability. Other communities have passed

formula restaurant laws. What this means is that if there is one McDonalds in your city you cannot have another one. The reason for this is economic. Research has shown that every time you spend money in a fast food restaurant, 85% of that dollar, 85 cents on the dollar, leaves the community, whereas if you spend money in a restaurant owned locally only 15 cents on the dollar leaves the community. The reason for this is that local companies spend locally. Their lawyers are local. Their accountants are local and their printers (paper printers, publishers) are local. That is why local companies retain money and recycle money in the local economy.

Other exciting rules that are being passed have to do with manufacturer responsibility, extended producer responsibility (EPR). This approach requires that the company that produces the product or the packaging is responsible for its management after use, either fiscal responsibility or physical responsibility to take the materials back. The computer network called "The Take it Back Network" has been very influential in passing laws in several states requiring take-back of computers. I must also say that the success of this movement in the United States is an international success. Not only have the Europeans helped us out with their directives but the discovery that in India and China computers were being shipped and recycled under the grossest conditions (both labor conditions and environmental conditions). That information greatly impacted local officials in the United States.

On the international media, there was a picture of one of these terrible recycling centers of computers, and it showed a label "The Los Angeles Public School District." The Los Angeles Public School District was embarrassed by this. As a result, in California we now have a new formula for dealing with old computers, which requires that these computers be recycled in an environmentally sound manner.

Other states have forced coal producers to cut their mercury. Whereas the federal government is looking

toward a 70% reduction over 10 years, some states are requiring a 90% reduction in 5 years. Once again, the U.S. cities and counties are much further ahead. Other communities are providing regulations so that local governments, school systems and universities must buy organic food. What this has done is it has increased the market for organic food and investment has followed.

Let me give you some other examples. I'm reading from an article that was recently in the Washington Post. It gives a list of all the states that have increased the sustainable requirements for energy generation way beyond the federal requirements. Arizona, California, Connecticut, there are altogether 18 states that have taken actions because the federal government would not take action.

## **7 Zero Waste Movement**

My field is solid waste management. We have benefited, again, from international activity called "the zero waste movement." The zero waste movement takes the recycling movement out of the waste stream. By this I mean recyclers for the last 30 years in the United States have been extremely passive. Whatever comes their way they have to figure out how to recycle. When a large corporation makes a decision to change a PET to bottle to a bottle that combines PET and PVC it's impossible to recycle. What the recyclers have done is start organizing for the redesign of industrial products and packaging.

At the same time, the zero waste movement looks at downstream activities. When we look at downstream activities we focused in the last two years on two major areas, the organic material in the waste stream and the construction waste in the waste stream. These two categories of waste amount to more than 50% of all the waste generated in the United States. As you probably know, these two categories of materials are the very easiest to recycle. Our most advanced cities (like San Francisco, San Jose and Portland) are now all beginning food waste col-

lection programs for composting and gasification. These cities are the first in the country to attempt this. So far the experiments have been successful in that they are economically efficient. We are anticipating that these two activities, this focus on these two materials, will allow the United States recycling rate to increase from 30% to 75% within the next 5 years. Right now San Francisco is the leading city in the United States with 65% recycling, including their new food recycling program.

## **8 Toward a Sustainable Development**

One of the major reasons why we are very excited about sustainable development as a new phase of the environmental movement is that most environmentalists say, "No, we don't want that plant. We don't want this activity." However, for sustainable development in order to succeed, we need growth. We need economic growth and we need capital investment. In fact, a very recent study by the World Wildlife Federation called "Options for Asia" reports these four findings. Number one, in order to increase sustainability of the planet, all buildings, homes as well as office buildings and factories, have to be made in an environmental way with environmentally sound materials, healthy building materials. Number two, Asian economies must move away from fossil fuels and invest in new, renewable sources of energy. Number three, investment has to be made in transportation, mass transportation. For those of you who have visited the United States, you will understand why we are embarrassed when we look at Japan and other countries, because the state of your mass transit is so sophisticated compared to ours. In fact, the budgets of railroads in the United States are being cut by the federal government because of the very powerful oil and car industries. Finally, the World Wildlife Federation concluded that Asian economies have to withdraw their investments from industries that are not sustainable.

## **9 Raising Capital for Sustainable Development**

Let me give you an idea of how local and state governments and private industry in the United States are raising capital for sustainable development. One example is a solid waste surcharge. The best example is Oakland, California, where citizens imposed through the referendum process (a very democratic process that does not exist in all states, but it does in California) a law saying that for every ton of garbage disposed of in the city and county (Alameda county) \$6 has to be paid into a capital fund. That capital fund is used to make loans and grants to sustainable companies. There is also private capital. There is a private organization called "The Sustainable Jobs Fund" based in North Carolina. Over the last few years it has raised over \$25 million for investment in clean manufacturing.

We also recommend special tax credits for clean and renewable energy and industry. What this means is, in our country we have a program called "Low Income Housing Tax Credit," which means that if a person loans money to an agency to build low income housing that person gets a very small return on investment (small interest) but it also gets tax credits. It allows affordable housing to be built at reasonable prices. We think that there should be a sustainable development tax investment fund so that rich individuals can invest their money knowing that it will support sustainable development and they will not have to sacrifice their interest or their earned money.

There's another category of pollution taxes that have been passed at the local level. We call this "Tax Shifting," shifting the tax base from its current property, sales, income to pollution taxes. The more pollution you create the more taxes you pay. This is a way to allow companies to avoid taxes by changing their industrial processes. In Minnesota, another state in the mid-West, they are issuing "Clean Renewable Energy Bonds." That is, the state issues bonds. A bond is your future. When you issue bonds you define your

future, and in Minnesota they are defining their future by providing large amounts of capital (about \$900 million) to renewable energy investments. There's a very similar program in the United Kingdom where there's a new Social Enterprise Fund. Over \$1 billion was committed last year for social enterprises that start businesses that respect both the environment and worker. In California we have something called "Recycling Market Development Zone." There are about 30 of them. In this industrial zone only companies that recycle are allowed to locate, and if they locate there they get low interest loans and they get reductions of their energy taxes and other taxes. I was very happy to learn that a similar concept exists here in the concept of Eco-Towns. I congratulate Hyogo and other local prefecture for undertaking such an Eco-Town project.

Finally, one of the recommendations we make for sustainable development is perhaps the most important. We believe that there should be a financial transfer tax. Every time you invest in the stock market or other forms of investments (bonds, et cetera) we think that a tiny percent (maybe 0.5%) should be charged as a tax and that fund dedicated to sustainable economic growth. We feel that this will be the largest source of capital for sustainable development.

## **10 Sustainable Development at the Local Level**

When it comes to communities, my work is involved in brining business, community organizations and environmental groups together. One of the major strategies we use is called "a joint venture enterprise" in which the community group supports the company locating in their community. They do not run the company, because community groups don't run companies. Businesses run companies. However, there is a mutual development in these joint ventures, and there are a number of examples which I'll give. In Milwaukee the most sophisticated crumb rubber plant I've ever seen has an agreement with its host community that

all workers are recruited from the community, that there is a sharing of money. A penny a pound is contributed toward community development. Since each plant is 40 million pounds a year that's \$400,000 a year. There are other forms of community equity. Companies are obligated to get their catering and their security from the local community.

I am now working on a project in Waveney, England, which is a district in Suffolk County, where we have just completed a feasibility study and a business plan for a 30 acre zero waste industrial park. We have identified 12 companies. We anticipate a profit, according to our business plan, of about 4 million pounds a year on an investment of about 6 million pounds per year and we anticipate the creation of about 200 new jobs. I'm working on several industrial parks. Some of them are already completed, such as in Del Norte County, California, but I'm also working on projects in Chicago and Detroit, which are going to be joint ventures. Here our concept is that the community group will purchase a brown field, a contaminated site, one of which has already been cleaned up, and once the community controls this 17 acre site it is a landlord. As a landlord you have flexibility, so if you want a company to come into your community with jobs that pay \$15 an hour or more and health insurance you can lower or eliminate rent for a few years to allow that company to take off and succeed, or you can permanently give them free rent in exchange for the community group getting a percentage of the stock of the company. These are the types of models we are working with to encourage sustainable development to work with community groups. Sustainable businesses appreciate this effort, because as you know sustainable businesses are at a disadvantage in the marketplace. So they need to change the rules to favor their type of production. You can't change the rules unless you have people voting, and therefore the link between innovative business and citizens is critical.

I'll give you a very graphic example. When the re-

cycling movement started in the United States in the late 1960's, mostly on the West Coast, in California, Oregon and Washington, the early recyclers knew that it was much easier and more profitable to recycle commercial waste because when you go to a commercial establishment the solid waste is homogenous. It is aggregated and collection is simple. When you compare that to going household to household to pick up recyclables in very small amounts you can understand why recycling from commercial establishments is so much more profitable and it's easier to get a business started. However, the recyclers knew that if they wanted to change the rules they needed votes. Therefore, they decided to start their movement with household recycling because that allowed them to talk to the households and win their votes. This is exactly what happened. State after state passed mandatory recycling all through the 1970's and 1980's as a result of this decision by the new recycling businesses to work with households and voters.

## **11 Conclusion**

### **- Keys to a Sustainable Development -**

We feel that there are three keys to a sustainable development movement. One, improve efficiency. Two, reuse materials and products. Finally, shift to renewable sources of energy. I think these are the keys to a successful sustained program. We are witnessing a tidal wave of change throughout the industrial world. I don't believe that any of us anticipated that at this time in the world's history there would be two nations such as the United States and China who are so disrespectful of the environment. I refer to them in terms of environmental policy as rogue nations, and that is because their activities are risking the lives of all of us and in fact the sustainability of the Earth. In fact, I have referred to in the past as China as "Wal-Mart with an army." Wal-Mart is dangerous enough with-

out an army, but with an army it's quite dangerous. In the United States the great fear, as we are seeing, is that the country is coming under the domination of the oil industry. Despite what the President said in his national address a few days ago (<http://www.whitehouse.gov/stateoftheunion/2006>) I predict absolutely no change in American policy with regard to oil. That's because the same promise that President Bush made a few days ago was made 30 years ago by President Carter, and after him President Bush, to make the country self-reliant in fuel. Since that time in the United States the reliance on foreign oil has tripled.

In conclusion, I feel that in terms of sustainable development we are seeing the best of times and the worst of times. Of course I'm using the opening lines of Charles Dickens' great book on the French Revolution, "A Tale of Two Cities." I believe that in terms of sustainable development we are seeing the best of times because human know-how, industrial entrepreneurs and active citizens have identified and implemented the very production systems which we need for sustainable development in terms of energy, waste and water. This is extremely encouraging. However, it is the worst of times because the traditional corporations and the politicians that they control have never had more concentrated political and economic power at any other time in the world's history. Of course, no one knows the outcome of this battle for sustainable development but I predict that it will not succeed unless the sustainable development industry links with environmental and community development organizations. I will say in conclusion that this is why I am so encouraged about coming here, learning about new technologies, learning about the Eco-Town concept and practice. I look forward to continued learning and to continued information sharing with the Japanese people and government. Thank you very much for your time.

### Useful websites

- Institute for Local Self-Reliance (ILSR): <http://www.ilsr.org/>
- Algalita Marine Research Foundation (AMRF): [www.algalita.org](http://www.algalita.org)
- GrassRoots Recycling Network (GRRN): <http://www.grrn.org/>
- Ecocycle: <http://www.ec.gc.ca/ecocycle/>
- The Take it Back Network: <http://www.metrokc.gov/dnrp/swd/electronics/>
- Computer TakeBack Campaign: <http://www.grrn.org/e-scrap/index.html>
- Global Alliance Against Incineration: <http://www.no-burn.org/home.html>