

The Oil Drum: Campfire

Discussions about Energy and Our Future

A Message to the Nearly Converted

Posted by [Jason Bradford](#) on June 10, 2009 - 6:25pm in [The Oil Drum: Campfire](#)

Topic: [Environment/Sustainability](#)

I was recently asked to give a talk at "The Generation Green Tent" during the Summer Arts and Music Festival at the Benbow Lake State Recreation Area. Here's the text and supporting images for that talk.

Thanks for coming to my presentation. I am going to say some challenging things today. I don't know if you are going to be validated or view me as a heretic. In any case, if you are taking notes I am going to have eight main points to cover. Here it goes!

My wife is a physician and has a Masters in Public Health, and so I am going to start with an analogy inspired by her profession that I believe all of us can follow. A very telling study was done on the health of Native Americans on both sides of the U.S.-Mexican border. The Mexican population was quite fit, while the U.S. population had high rates of obesity and associated diseases, such as diabetes. I am going to make some judgments about the society that produced this discrepancy, and perhaps we can primarily assign the blame for the illnesses of these people on their sick environment. However, I don't want to absolve individuals of all responsibility for their predicament because that is a disempowering thing to do.

Jobs We Need to Lose	Jobs We Need to Gain
Car dealerships	Bike shops
Slot machine factory	Solar oven factory
High fructose corn syrup processor	Bee keeper
Truck factory	Passenger railcar factory
Coal miner	Wind turbine installer
Solid waste disposal	Solid waste reclamation
Property developer	Restoration ecologist

Overcoming the obesity crisis of humanity requires paying off our ecological debt. This means accepting certain job losses and developing job gains in other areas. See full article for discussion.

What I am going to argue is that you are all capable, powerful individuals and that you are responsible for making great changes.

So, let's imagine a morbidly obese person died. What was the cause of death?

Did the heart get clogged? Perhaps the lungs filled with fluid? Was it renal or kidney failure or a

collapsed circulation system? Did a growing cyst or new cancer lead to a weakness in one of the organs? There are so many possibilities because just about every system was over-taxed.

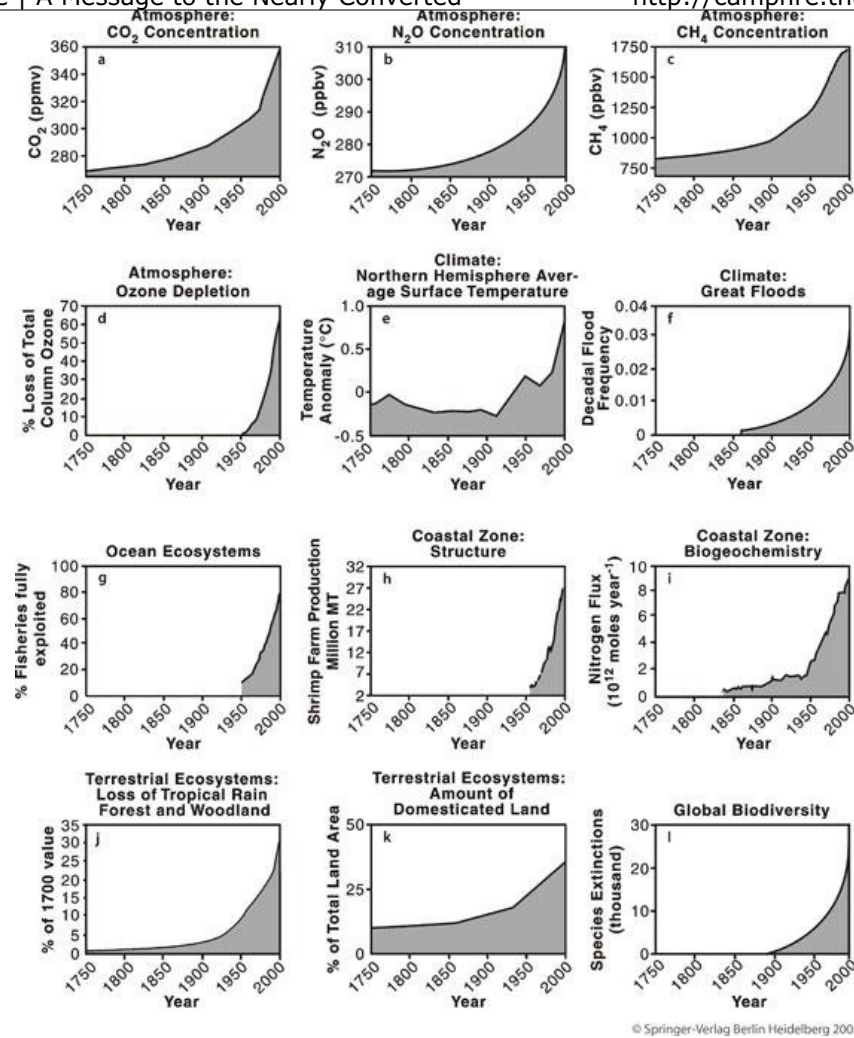
The patient was in the hospital before expiring, and the doctors weren't sure what to do. It was like one of those "wack-a-mole games" at an arcade. Addressing one problem, such as heart failure, worsened another, such as kidney failure. The problems kept popping up, and taking care of one simply brought another to the surface...faster and faster and faster until coping with so many became impossible. The medical staff, and ultimately the patient, were simply overwhelmed as everything seemed to go wrong at once.

I'll ask the question again: "What was the cause of death?"

Common sense tells us that looking at the death of this person from the perspective of failing organs misses the point. The root cause of death was years of unhealthy habits.

Point 1. This is the first point of my talk. I want everybody to view the grim environmental statistics as multiple "organ failures" approaching for human civilization.

I'll just run through a few of them: Species are being lost at a rate that is about 1000 times higher than normal. Nearly all populations of commercial fish are in severe decline or utter collapse. Forests, wetlands, prime agricultural lands, and other highly productive habitats are routinely paved over or degraded. Key non-renewable mineral and energy resource stocks, especially oil, have been consumed at exponentially increasing rates for decades and are now past or near their extraction peak. Fresh water is frequently polluted and overdrawn from aquifers. And just to finish off this incomplete rundown, greenhouse gases in the atmosphere are destabilizing the climate system with frightening consequences.

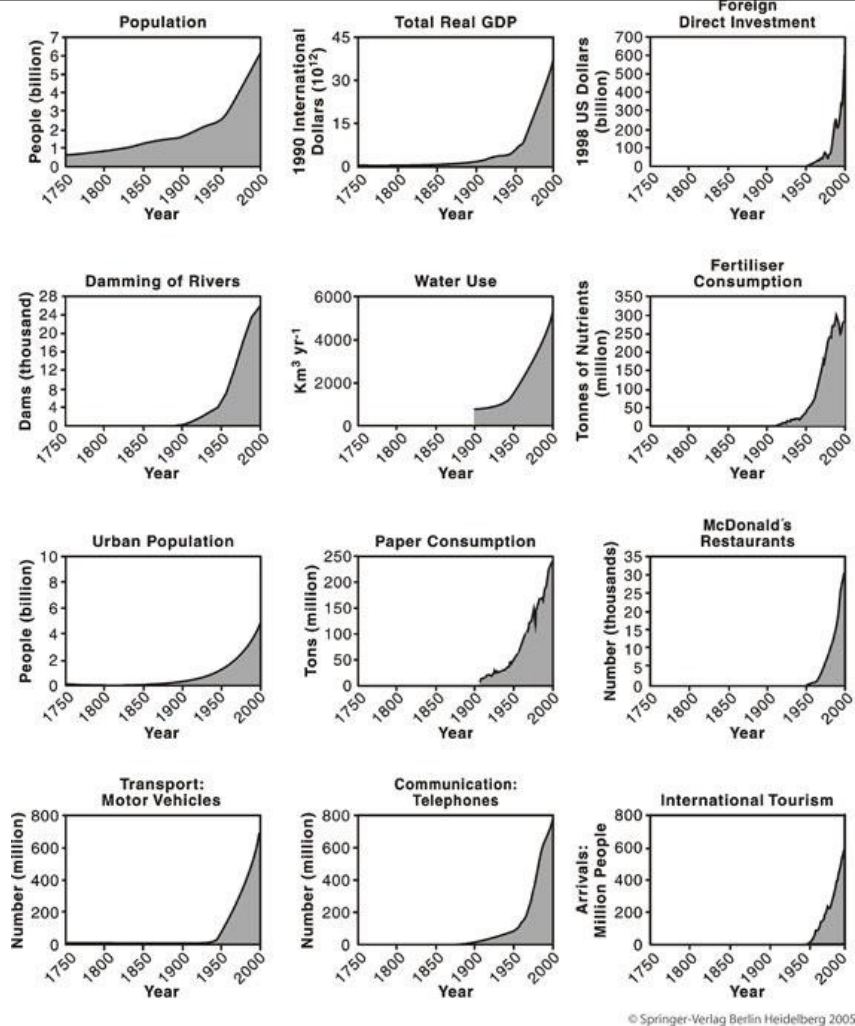


Graphs from [New Scientist](#).

Most environmentalists will give a talk about one of these systems and then propose some things you or the government or business can do to make it not so bad. I am not going to give that kind of talk. Let's not waste any more time dealing with the organs, let's take a look at why they are all failing at once.

Point 2. The second point I want everybody to get is this: The cause of environmental decay is a kind of obesity crisis of humanity. We humans are taking more than we should from the planet, getting fat in the process, and leaving our trash behind.

Why do I put it this way? Well, let's examine some other statistics. Growth in human population has been sharply rising for several decades. So has industrial output. The number of cars, trucks and planes in the world has increased steadily. Consumption of paper products, and stuff of all kinds, really, has risen exponentially. This is people taking stuff from the planet, building things, and creating lots of waste.



Graphs from [New Scientist](#).

I am going to do an audience survey. I want you all to check your feelings during the following scenario I will describe. It will help if everybody closes their eyes for this exercise. It will only take a minute.

Your radio alarm clock goes off on Monday morning and it is the newscast you regularly hear. The tone of the newscaster is subtly jubilant. She is telling you about the latest survey of consumer confidence. It is high. A new report on the economy indicates that GDP is growing again, that car sales are up, and so is new home construction. Resorts around the world are preparing for a new tourism boom as the economy gets back to robust growth.

Keep your eyes closed. Now, how do you feel about it? I am going to give you three choices. Be honest, eyes are closed. First, raise your hand if your emotions register this broadcast as “good news.” Now raise your hand if your emotions register this broadcast as “bad news.” Anybody left with “mixed feelings” raise your hand.

[Historical note: I gave the same speech on Saturday and Sunday and only one person thought this was good news. The split was about even between bad news and mixed feelings. I suggest

Thank you for doing that. I believe the common response to that news report would be a sense of “good news.” Now, what if the next news report told you about another calving ice sheet and warned of sea level rise? Perhaps it is an update on the area of plastic waste in the North Pacific Ocean the size of Africa. These would be taken as “bad news,” right?

To make it crystal clear, I am saying that the idea, “Economic growth is good,” is in conflict with “Destroying the environment is bad” because currently, the way things work, growing economies destroy the environment. Just look at the past 20 years in China. They are now wallowing in the putrid wastes of their own “progress.” Conversely, the current economic depression in the U.S. has people driving fewer miles each month for nearly the past two years. Why aren’t we celebrating this drop in gasoline use? Isn’t it great news that we are reining in greenhouse gas emissions and using less foreign oil? [Bike sales in 2009 are now greater than car and truck sales combined.](#) Shouldn’t we be celebrating the closing of car factories and the rise in bike sales?

How bizarre then, that the activities that we call “good” are the cause of our collective obesity, leading to organ failures such as calving ice sheets. Keep in mind that societies frequently have bouts of madness. We look back at history and gush, “What were they all thinking?” Can anybody give an example of a crazy mass delusion in history? Our mass delusions are extremely dangerous.

Point 3. This brings me to my third main point: It is well past the time for us to admit that we are a bit off our rockers too. Our society is obviously in a state of collective cognitive dissonance.

Wikipedia defines cognitive dissonance as:

an uncomfortable feeling caused by holding two contradictory ideas simultaneously. The "ideas" or "cognitions" in question may include attitudes and beliefs, and also the awareness of one's behavior. The theory of cognitive dissonance proposes that people have a motivational drive to reduce dissonance by changing their attitudes, beliefs, and behaviors, or by justifying or rationalizing their attitudes, beliefs, and behaviors.

Apparently there are two ways to reduce cognitive dissonance: “either by changing attitudes, beliefs and behaviors, OR by justifying or rationalizing their attitudes, beliefs, and behaviors.”

I am here to ask you to do the former, not the latter. Change behaviors, don’t rationalize. I will also make the claim that by changing your behavior you are going to feel a whole lot better. It will be like going on a diet and exercise program, tough at first, but ultimately very rewarding. I will also make the claim that you really don’t have any choice. You will never hear a news report about a newly robust economy--only the false promise of one some vague distance in the future. We are just beginning the Greater Depression and you better get ready. It’s time to shed some pounds.

Some may be wondering why I don’t believe Barack Obama, Ben Bernanke, Tim Geitner and good old American spunk can get the economy back on track. Well, here’s why.

Let's imagine Mother Nature is a banker. Several generations ago our forefathers walk into "Bank of Nature" and get a loan. Mother Nature approves our loan and offers us plenty of credit. We are now endowed with the riches of ancient forests, prolific fisheries, fertile topsoil, clean water, concentrated mineral ores, vast reserves of fossil fuels, and a splendidly stable climate. These assets, Mother Nature's credit slip, are the source of our wealth and comfort. Every widget, gizmo, thing-a-majig, do-dad, wach-a-macall-it and Winnebago produced in our factories, sold in our stores, piled in our landfills and spilled in our waters originated as a loan from Bank of Nature.

Why is there a problem? Because loans, as we are now discovering, are not just slips of credit, they also come with debt. While we gleefully liquidated the Natural Capital loan Mother Nature approved for us, we failed to develop a business plan that could pay back the debt. This ecological debt is the underlying problem in our financial system right now. As soon as the economy tries to heat up again, which we call increasing DEMAND, it will be capped on the knees by the henchmen Mother Nature hired. She will not extend us any more credit since we have done a poor job with the first loan. Some of the protest signs you may have seen pictures of around the world are correct: Nature doesn't do bailouts.

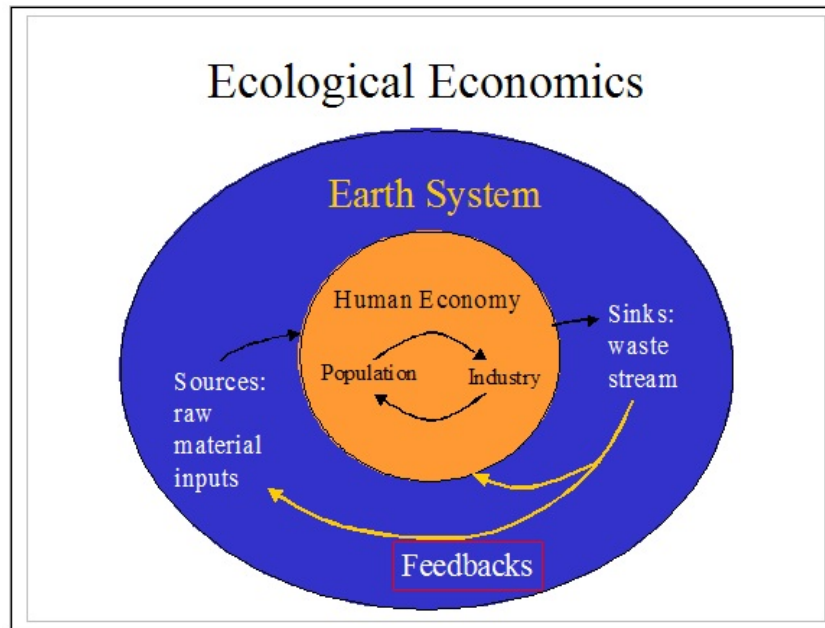


If you are not quite following me here, a few of examples should help. Let's say demand picks up for fish...woopsie, most fisheries are already collapsed. Want a new tourism boom? Too bad, oil supplies have peaked and the airline industry is being forced to contract, not expand. Looking ahead, how's the ski resort business going to be with dramatically reduced snow packs and expensive fossil fuels?

The global financial system is not structurally capable of dealing with this situation and is in the process of failing. The current policy response is to inject more money into the system, which doesn't help because all students of economics know the following: When more money chases fixed or declining goods the result is inflation that brings demand in line with what is materially available.

Don't get me wrong, economic opportunities remain. What I am saying is that business and government enterprises that run an ecological deficit each year and further deepen our ecological debts will fail. I'll get to those opportunities later.

Point 4. This brings me to point 4. Problems with the environment or natural resources are problems with the economy because human economic systems are a subset of planetary ecological systems. Environmental issues should be the main topics on page 1 of the business section of your local newspaper—assuming you still have one.



The human economy is a subset of planetary ecology, or Earth System. Ignorance of this simple truth has led to a misdiagnosis of our troubles.

This point brings me back to our original analogy. To our great detriment, the human economy went past its healthy growth phase and is now so enormous it desperately needs liposuction and a frugal diet plan. If we don't cut back on our portion size, get off the couch and start cleaning up after our slovenly selves, our poor health will lead to our demise as Mother Nature boots us out of her home.

What this means, of course, is that if we want to have a nice home and the economic security and stability that goes with it, we have to repay our debt to Bank of Nature. This sounds scary, and is a huge project, but ultimately we have no choice so let's not whine and delay. Let's take it on as a great adventure, a thrilling challenge. Our success or failure is going to hinge on our attitude. We need to take control of the circumstances instead of being passive and expecting someone else to solve the problems we create each day by the way we live.

Let me give you an example. I have a friend named Mary Wood who lives in Eugene OR. I am going to read something [she recently wrote](#) about her experience as a soccer mom. This is going to be a long quote because it is much easier for me to copy from her than to write something myself:

Five years ago, I was a newbie soccer mom. I enrolled my little boys in soccer and started hauling them around town to practices and games. Along the soccer field at the appointed time was a regular line-up of huge, gas-guzzling SUVs and mini-vans. After the children spilled out onto the field, the parents would idle on the sidelines sipping

coffee from Styrofoam cups, or drinking Pepsi from plastic bottles. They would talk about their family trips to Costa Rica, or Mexico, or Europe, or Disneyland. They would rave about the new soccer equipment they had purchased and share their exploits at the mall. At half time, the parents would dole out dozens of plastic juice bottles to the little soccer players. They would dispense Albertson cookies from plastic boxes and slices of cake from thick plastic domes, slap the goodies on paper plates, and stuff plastic forks into little reaching hands. Within five minutes, the trash cans exploded with paper, plastic and Styrofoam. No one seemed to give any thought to the waste. This was the soccer life. Practices three times a week, two games on the weekend, and heaps upon heaps of trash.

What did Mary and her family do about this? I'll read on:

There came a point, however, when I could no longer look my children in the eyes without thinking about climate crisis and the tipping point and my role in it all. Yes, there were benefits to soccer, but really, in light of the world ahead, is soccer the skill that our kids need most? And how do we reconcile the enormous carbon pollution in today's parenting? How can we love our children and yet contribute to the demise of their world? That's not love. That's denial.

We gave up the soccer life.

At about this time, Mayor Kitty Piercy made a carbon challenge to the residents of Eugene in which she asked them to do two new things a month to reduce carbon. We made this a family challenge. At first we did things like ride the bus, or have a no-drive day once a week. The next month we'd come up with two new things, and the next month two more things. Within a year, our front lawn had become a mini-orchard and vegetable garden, there was bulk food stored in our garage, we were riding our bicycles nearly everywhere, we had eliminated almost all food packaging, nearly all of our fruits and vegetables came from local sources, we made our own bread and chicken soup and granola bars every week, we rarely entered a grocery store, we raised chickens and built a coop, we gave up plastic and air travel, we spent our summers berry picking and backpacking, and we spent the long autumn days canning, freezing, and drying the harvest we had gleaned from our own garden and local farms. Our family enterprise became completely devoted to self-sufficiency, home food production, and skills-building in farming, food preservation, wild plant identification, and the like.

These days, our kids dash home from school eager to get started on planting, or raising seedlings, or canning tomatoes, or drying pears. They hop on their bicycles and ride through the neighborhood, giving away extra lettuce, tomatoes and berries from our garden. Their little acts of sharing build community. Neighbors drop in with gifts for our kids – like an old tub to wash carrots in, a blueberry bush, a jar of pie filling, pumpkin seeds, and a recipe for granola bars. My children have become self-appointed ambassadors for this urban homestead lifestyle by talking about it to our neighbors and their friends, and using it as the subject for school writing assignments and projects. Our family dinner conversation is often filled with new insights into raising vegetables or canning foods, or the latest ways to keep slugs out of the spinach. We also have

discussions about how fast the world is changing, and how we will prepare for it, embrace it, and learn new ways -- or old ways. Days upon days go by without using the car, and we really don't even notice it because we are so occupied at home, working side by side to produce our own food -- all of which is part of a family journey towards more self-sufficiency, carbon reduction, and sustainability.

At some point along the way, I noticed that Mayor Kitty Piercy's carbon challenge had evolved into a new -- and infinitely richer -- way of life for us. The challenge of two carbon-reducing initiatives a month had grown into a family enterprise, a source of joy and pride, a learning experience, a family identity, and a well-spring of self-esteem and responsibility for our children. Perhaps most important, it had become a shared statement of purpose, a moral fabric for family life -- a daily expression of the trust covenant shared with our children. My husband often comes in from the garden and says, "It's a wonderful life." And I have to agree. I invite you to embrace this new world ahead -- with courage, passion, and a sense of adventure -- and join in the Great Family Turning.

What Mary's family is discovering is well-known by social psychologists and goes under the heading Self-Determination Theory. According to the research behind this theory, well-being depends in large part on meeting one's basic needs for autonomy, competence, and relatedness. Can you see all of that developing through Mary's story?

Point 5. My fifth point is this: Your zone of control is you and your family. Start the changes there, taking it one step at a time. Over a year this will mean changing your life, but it will happen at a reasonable pace, and it will be a healthy and responsible way to live.

I have a kind of system for thinking about my life and how to get what I need without deepening our ecological debt, while also enhancing my family's resilience and health.

I plan my home and habits around these categories: Food, Water, Shelter, Transportation, Health, Communication, Personal Skill Set, Social Network, Economics and Finance, and Disaster Preparations. In each of these areas I work to become more competent and self-reliant. For example: making our house energy efficient and powered by renewable energy systems, having a large garden and food storage, paying off debts and limiting unnecessary purchases, using a bike and cargo trailer for nearly all transportation. I will not discuss any "how to" details for these. Anybody can sort out how to do this when motivated. I didn't know much about any of these things a few years ago. All I needed was time to develop competence. You can do this too. Are you motivated yet?

This has been a five year process so far, and we are not complete. It is an ongoing journey. Personally, I am not able to hold down a full time job, invest in retirement funds, take big vacations, watch T.V., and do all sorts of regular stuff like that anymore. For me, time and money are spent building and being in this new way of life, and I agree with Mary's husband Joe that it is much better than the old way.

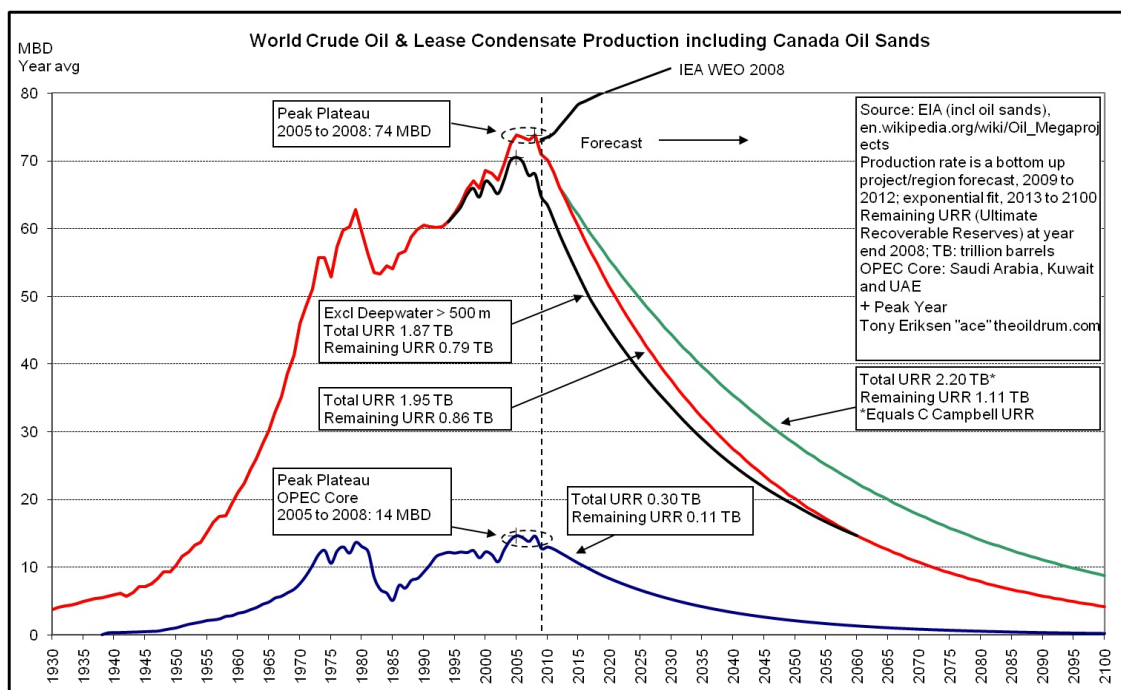
Now some people look at my family and Mary's family and think, "That is fine for them. They have made a nice lifestyle choice. My choice is to keep on doing tomorrow what I did yesterday."

Well, that is not going to cut it. While I like my lifestyle choice I want to make another key point.

Point 6. Sustainability is not a lifestyle option of the few, it is a necessary change for everyone if we want a decent future on this planet. This is logically true because anything unsustainable must end, and our demonstrably unsustainable old habits are coming to and end, whether we want them to or not.

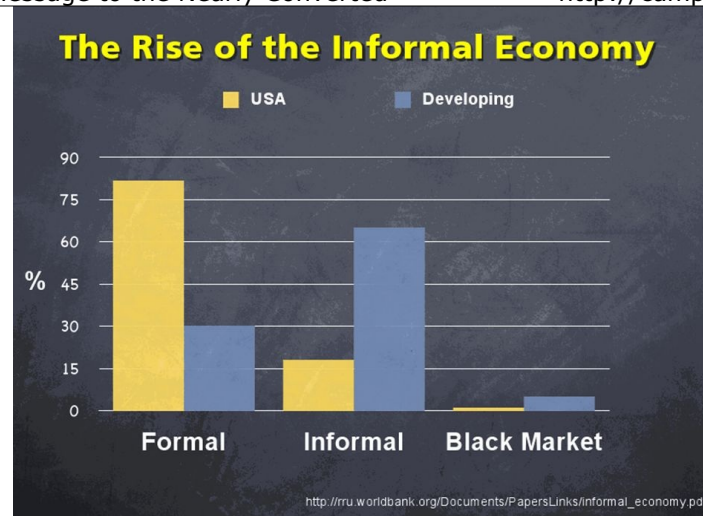
Let me give you an example of our old ways coming to an end. General Motors just went bankrupt. Residential developers of suburban sprawl and mega-malls are going bankrupt too. Why? Because our economy is part of the finite planet Earth and we have reached some hard limits. Oil production is in decline and this means GM can't keep building Hummers that will fill garages in dwellings miles away from work and schools and basic goods and services. Ecological debt yields financial ruin. Ways of life fade away.

If you accept this new direction it will be extremely liberating. No longer will you feel at the mercy of the unfathomable and mysterious global market system. That system is crumbling, and you should get away from it. If you move away in time, you might be able to watch it dissipate with a calm sense of detachment rather than horror.



Oil production history and forecast to 2100 by Tony Eriksen at theoil Drum.com.

Mary mentions interactions with neighbors. This is very important. My family is not a modern-day Robinson Crusoe in the midst of civilization. We are part of a small but growing local economy. This new economy is building rather informally at first, meaning it is happening without the use of much money or legal structures. Informal economies are actually the dominant ones on Earth. Think of the statistics you hear about people living on \$1 per day. How do they manage? Because most of what they need is available without money!



As our formal economy declines more work will be done in the informal economy, as is true now in so-called developing countries. Graph from [Post Peak Living](#) based on World Bank data.

Typical two income households end up paying for all kinds of services that they could do themselves if they had the time. Laundry, housecleaning, home maintenance, vehicle repair, processed and prepared food, gym fees, childcare...it goes on and on. By contrast, the “underemployed” can share skills and time with neighbors, basically trading favors, and no money needs to change hands. Remember: autonomy, competence, relatedness...

A social shift is happening now because of the Greater Depression. Home gardening is undergoing a huge revival. This is fantastic news. It means people are reacting wisely to new circumstances by building skills and improving self-reliance.

Point 7. Here’s point 7. We are social animals and need each other. There is no separate peace. Build community based on your personal strength and example.

A few, or perhaps many, of you might be thinking: “This guy is taking joy in the loss of the American Way of Life and the good jobs that hard working people have held for many years. Is he a heartless jerk?” Well, I don’t think so.

Plenty of job opportunities *should* exist in order for us to pay back that loan Mother Nature approved. But we can’t keep doing the old jobs and these new jobs. Put another way, we can’t afford both a massive new “green jobs” program and a bailout to the very same industries that have gotten us into this mess. We have to go green all the way.

I think you’ll get my point with some examples. I am going to list “Jobs we need to lose” and “Jobs we need to gain.” I will first say a job, or type of business that should disappear or at least shrink dramatically, then a job or business that should grow rapidly.

Jobs We Need to Lose	Jobs We Need to Gain
Car dealerships	Bike shops
Slot machine factory	Solar oven factory
High fructose corn syrup processor	Bee keeper
Truck factory	Passenger railcar factory
Coal miner	Wind turbine installer
Solid waste disposal	Solid waste reclamation
Property developer	Restoration ecologist

While you can make changes in your own life, there is no guarantee that society will follow along. Unsustainable ways will end, but, as professor Jared Diamond documented in his book "Collapse," and Joseph Tainter in "The Collapse of Complex Societies," they could end in the morgue. I'd rather see them end by becoming outmoded. I want to see humans live as constructive parts of the planetary ecology. Making the necessary changes society-wide requires engagement beyond your home and neighborhood.

Point 8. My final point is this. Find ways to widen the circle of change to include governments, businesses and institutions at all levels.

I should mention that in addition to being a fantastic mother who does what it takes to create a future for her children, Mary Wood is a [law professor](#). Here's something else she tells me.

Governments are incorporated as trustees of the commons and have an obligation to protect assets held in trust, which includes the natural assets like air, water, and soil. Legally speaking, your government shouldn't spend your tax dollars or give permits to businesses that degrade those assets. To do so is to steal from the future, and therefore a violation of the function of a trustee. But governments have been treating protection of natural assets as discretionary instead of obligatory, which has led to the ecological debt crisis. This can't go on any longer. Every action of government should be viewed in light of the need to repay our ecological debt. Since government is a trustee of the commons, they legally must protect the commons.

A vital job of citizenship is to hold governments accountable for their trust obligations. And because you have personally reduced your ecological debt you will speak with authenticity when you say, "I don't need freeways, I need safe bike routes. Why are you spending my tax dollars expanding an energy inefficient transportation system that we can't even afford to maintain when we have inexpensive alternatives that don't pollute."

If you are going to be involved in government my advice is this: Follow the money. Governments are great at making fantastically eco-friendly pronouncements while the budget funds diesel-powered backhoes digging us deeper graves.

Another great option that widens the circle is to start a business. This may sound funny from someone telling you the economy is never going to rebound. While the economy we have now will shrink, we do need something sustainable to grow in its place. Because of financial instability and expensive oil, I see a process of decentralization occurring. Whereas in the past factories in China and Taiwan could be relied upon to deliver, that won't be the case in the future. Small local shops

or regional factories can be amazingly productive at building the new products we will need to take care of basic needs like developing sustainable food, shelter, energy and water systems.

For example, I run a small farm that operates primarily using manual power. The key implements I use are generally not available in stores. When was the last time you saw a low-wheeled cultivator, and do you even know what it is? How about a broadfork, a no-till roller, a scythe, a drill seeder, a grub hoe? I have had to go to great lengths to source and maintain this equipment, which was ubiquitous in America 60 years ago.



I am using a no-till roller to kill an annual cover crop. This is a low-energy method of farm management that minimizes soil disturbance and avoids herbicide use.

Can you go downtown where you live, walk into a store and purchase a solar oven or a cargo trailer for your bike? Can you test-ride an electric bike? Will a local contractor readily install a rainwater harvesting system for your home, or a gray water wetland that irrigates your yard? Do you have a local seed company that tests and packages cultivars for your bioregion? Is anybody making prepared foods like soups and stews using local, seasonal ingredients? I hope you are seeing some potential by now.

Lastly, I want to discuss another opportunity. Underemployment could mean more free time. What are you going to do with it? May I suggest supporting the non-governmental institutions where you live? Perhaps join Friends of the Library, work in a soup kitchen, or any number of service clubs that undoubtedly exist. As government programs are cutback and shut down, we will have to learn to take care of ourselves and the less fortunate to a greater extent.

A special class of non-governmental organization is involved in paying back our ecological debt. These are the local environmental centers. I strongly encourage you to join with them on various projects that could make the difference between a healthy versus a dystopian future. The big question I have is this: How are we going to restore and manage local watersheds and ecosystems in this new economy? For example, will a switch to renewable energy mean greater use of wood, and will that decimate the forest or be done with ecological wisdom? Might the jobless hunt for meat and will cause the local extirpation of game or be a healthy, sustained harvest. And I wonder, as people can't afford trash disposal services will they dump in creeks and at the edge of

fields more and more? Who will watch and restore the creeks and clean up the mess others leave behind?

Personally, I have helped found a local group called [Willits Economics Localization](#) to discuss the very topics in this speech today. You may have a group in your area like mine, or you can start one. Look for the [Transition Town Network](#) on the web. If you are going to begin the process of change that sets you apart from the mainstream it really helps to be socially reinforced by sharing this transition with others. Someday, what you are doing will become the mainstream, but for now we need courageous pioneers.

In this new era, local watchdogs, citizen organizers, restoration ecologists, sustainability educators and pioneers will be extremely vital to the function of a society that must learn how to fit within the limits imposed and the richness given by the Earth around them.

A reader has kindly provided [a pdf of this talk](#).



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