

IRCC

Diminishing Resources, Energy and Water Rethinking Public Health, Safety and Welfare

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Development Center for Appropriate Technology
Tucson, Arizona - www.dcat.net

Inter-Jurisdictional Regulatory Collaboration Committee
Development Center for Appropriate Technology 2005

It is an honor to be invited here to present today. I'm highly encouraged by the decision of the IRCC to focus this summit on sustainability. Many of us who have been working on these issues for years feel a sense of urgency that would be hard to detect in the mainstream media, in society or in much public policy, especially in my country. Yet the world's scientific community has been trying to convey this message for decades. So, on behalf of my children and grandson, I want to say thank you!

Global Realities - Local Choices

In November 2003 I was honored to give a presentation at the first IRCC Global Policy Summit in Washington, DC.

I began by asking those present to think about who was absent; people whose interests are rarely well represented in the decision-making processes that determine their fate:

over 1/2 of the current world population who live on less than \$2 (US)/day without hope for shelter built to modern codes; and the 2-1/2 to 3 billion people expected to join us in the next few decades as world population grows toward 9 billion.

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When I spoke at the first IRCC Global Policy Summit in Washington DC two years ago, I began that talk by asking the audience to look around at who was in the room. And then I asked them to focus on who was missing. In particular, I was thinking of the poor people of the world whose interests are seldom adequately represented at such meetings - roughly half of the world population today that live on less than \$2 (USD) a day, and the two and half to three billion people who will likely be born in the next fifty years.

Global Realities - Local Choices

How will we fulfill our responsibilities to perhaps two-thirds of the people who will be alive in 2050?

This must become a central and widely accepted part of our responsibility for safeguarding public health, safety and welfare.

Our critical task is to accept these longer-term risks as real and urgent and learn to balance them against our shorter-term focus on individual building safety.

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Those two groups likely account for two thirds of the people who will be alive in 2050. We have to find a way to automatically include them in our thinking, not as an afterthought, but with clear forethought throughout our decision-making processes. Protecting them is every bit as important as protecting those of us here now.

Global Realities - Local Choices

In this larger risk framework, much of what looks safe now seems risky while many alternatives that seem risky now begin to make much more sense. This is true especially in the face of growing challenges such as peak oil, population growth, falling aquifers, climate change, depletion of non-renewable resources, loss of biodiversity and habitat, growing material consumption...



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This long-term perspective changes many if not most of our assumptions about risk. It raises whole new categories of questions which have not been part of the process of making decisions about building codes and standards. But the impacts and relationships are real and though some are difficult to comprehend, others are obvious if not yet crystal clear. Among the big ones hidden in plain view are the looming energy crisis - peak oil and what happens after that, and climate change, population growth, resource issues, and loss of habitat and biodiversity.

Ecological Footprint

Ecological footprint is a concept based on carrying capacity. It's a way to calculate the amount of productive land required to supply resources and absorb wastes from a given activity - of an individual, organization, community, nation or population, including the world population.



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There is a very useful conceptual tool to help people see what is happening and what it means. The concept is called ecological footprint and it's valuable because it gives us a potent way to understand the degree to which we are overshooting the carrying capacity of the earth. In one sense, it makes clear that we are, in essence, squandering our natural capital, rather than living on our solar income or ecological "interest." As in so many areas, we need to understand the realities of where we're currently headed to have a chance to create a different outcome.

The Picture that is Emerging...



There's credible evidence that if each person on Earth used resources & generated wastes at the rate of the average American, Canadian, or member of the EU we would need several more Earths to sustain that level of human activity. And that's for Earth's current population.



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At the First Global Policy Summit I spoke about Ecological Footprint and the evidence suggesting that if everyone on earth were consuming resources and generating waste at the rate of the average U.S. and Canadian citizen, we would need at least two more planet earths to sustain that level of activity. Since that time much additional research has been done and this methodology continues to gain credibility as a way to assess a complex set of development issues.



A few months ago a new report was published about the ecological footprint of the EU. You can download the report and much of the supporting data and documentation at www.footprintnetwork.org.

The Big Picture - Global Ecological Footprint

THE ECOLOGICAL FOOTPRINT

The Ecological Footprint measures people's demand on nature. A country's footprint is the total area required to produce the food and fiber that it consumes, absorb its waste, and provide space for its infrastructure. People consume resources and ecological services from all over the world, so their footprint is the sum of these areas, wherever they are on the planet. The footprint can be compared with nature's ability to renew those resources.

The global Ecological Footprint was 11.7 billion global hectares in 2001, or 2.2 global hectares per person (a global hectare is a hectare whose biological productivity equals

the global average). This demand on nature can be compared with the Earth's biocapacity, based on its biologically productive area - approximately 11.7 billion global hectares, which is a quarter of the Earth's surface. The productive area of the biosphere translates into an average of 1.8 global hectares per person in 2001.

The global Ecological Footprint decreases with smaller population size, less consumption per person, and higher resource efficiency. The Earth's biocapacity increases with a larger biologically productive area and higher productivity per unit area.

In 2001, humanity's Ecological Footprint exceeded global biocapacity by 0.4 global hectares per person, or 21 per cent. This global overshoot began in the 1980s and has been growing ever since (see Figure 1). In effect, overshoot means spending nature's capital faster than it is being regenerated. Overshoot may permanently reduce ecological capacity.

Figure 3: The Ecological Footprint per person for countries with populations over 1 million.

Figure 4: Humanity's Ecological Footprint grew by about 160 per cent from 1961 to 2001, somewhat faster than population which doubled over the same period.

Figure 5: Ecological Footprint by region in 2001. The height of each bar is proportional to each region's average footprint per person, the width is proportional to its population, and the area of the bar is proportional to its total footprint.

Fig. 3: ECOLOGICAL FOOTPRINT PER PERSON, by country, 2001

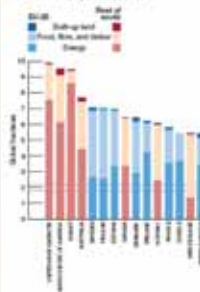


Fig. 4: HUMANITY'S ECOLOGICAL FOOTPRINT, 1961-2001

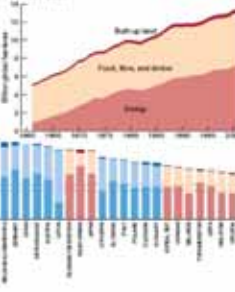
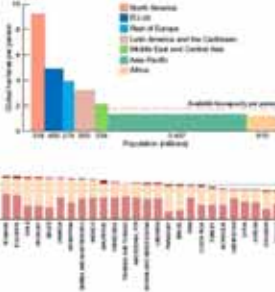


Fig. 5: ECOLOGICAL FOOTPRINT BY REGION, 2001

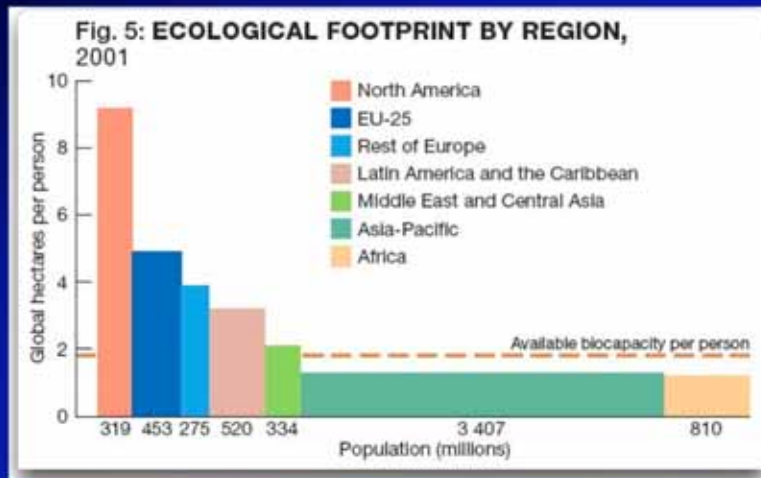


© WRI 2002. THE ECOLOGICAL FOOTPRINT

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The picture this report paints is sobering. In 2001 it was estimated that there were 1.8 biologically productive global hectares per person. But the 2001 global footprint was 2.2 global hectares per person - exceeding the earth's biocapacity by .4 hectares per person. This has not improved and in fact it is getting rapidly worse as China and India adopt western consumptive styles and participate more fully in the global economy.

The Big Picture - Global Ecological Footprint



www.footprintnetwork.org

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It is worth noting that in 2001, two-thirds of the world's people were still living within their ecological means on a per-capita basis. However, that same year, North America and Europe used almost 60% of the world's ecological capacity for just 17% of the world's population.

The Big Picture - Global Ecological Footprint

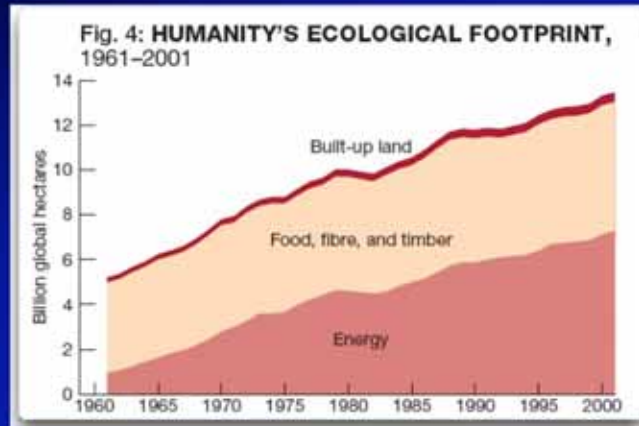
REALITY - We, in the developed world maintain our high standard of living by importing both the resources and ecological capacity of the developing world. Surplus global ecological capacity no longer exists. Yet we continue to increase the ecological footprint of both the developed and developing world on a per-capita basis, even as world population grows.

Buildings account for a large percentage of this footprint and energy accounts for much of that.

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One way to think about what has been happening is that we in the developed (or over-developed) countries have been importing the seemingly surplus ecological capacity of the less developed nations. But as world population and consumption levels have increased, that surplus has been used up. Yet we keep increasing the footprint in both developed and developing countries. Buildings account for roughly one third of that footprint with a majority of that related to energy. Of course it isn't only buildings that are a concern. Western auto manufacturers have spent tens of billions of dollars in the past couple of years building new automobile production facilities in China - and they are not for building cars to export to the west - they are for the Chinese - roadbuilding is one of the other big growth activities in China... but where is the fuel for those cars going to come from?

The Big Picture - Global Ecological Footprint



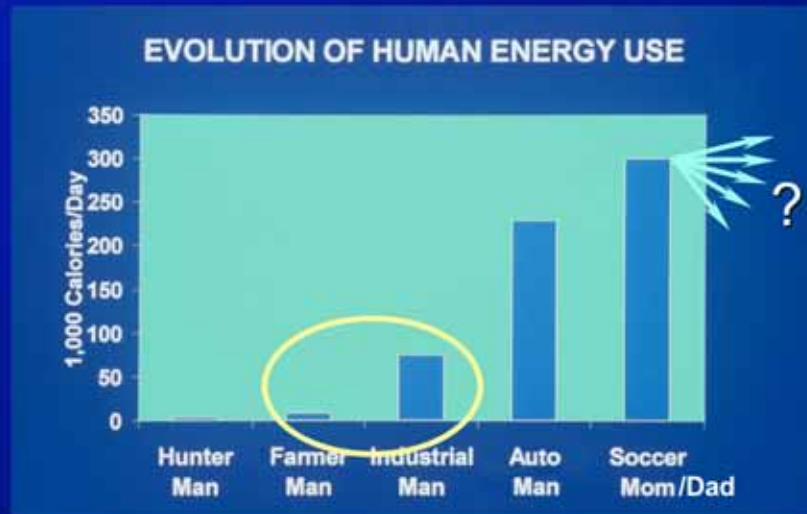
It's mostly growth in energy use!

www.footprintnetwork.org

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If you focus on the energy component of humanity's footprint it becomes easier to see that it is the factor growing much more rapidly than built-up land or agriculture for food and fiber. Buildings are big users of energy.

This Is Not a Timeline ...



Calorie = heat needed to raise 1 gram of water 1 deg C
Randy Udall - Community Office for Resource Efficiency
Development Center for Appropriate Technology - 2005

Here's what's been happening globally in terms of energy consumption on a daily per-capita basis. This is not a timeline, however, because there are people living on the earth right now at each of these energy use levels. Two thirds of the world's people are living today somewhere between Farmer and Industrial Man, but it appears that we're doing everything in our power to get everyone on the planet up to at least Auto Man. It will be nearly impossible in the next few decades for even developed countries to continue to increase their consumption of energy, though those with things to sell will keep trying. But cost and supply will prevent that from happening - reality will intervene.

Get Out of the Box

We hear that we need to think "outside the box" to deal with our problems today.

But it's a process - expand your field of view...get out of the box you're in...into the next bigger box...



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We are going to need some significant changes to occur in virtually every human system as these realities become more apparent to everyone. People talk about the need to think outside the box - especially with all the daunting challenges we're facing today. My experience is that it is really an infinite series of boxes. We expand our thinking and understanding and climb into the next bigger box. No one has anything remotely like the whole picture of reality or truth, and that's okay. This tells us that we all, always have a lot to learn - our world view is both incomplete and inaccurate. Our job is to make the largest and most accurate map of reality that we can in our time here. We have to be willing to redraw your map constantly...

Out of the Box into Details or Big Picture?



A key to keeping things in perspective and



proportion is to know if you're working in the details or in the big picture and constantly shift your focus back and forth.



Think about both the things and the relationships at the different scales.



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And one way to keep remembering to check the accuracy of the map is to pay attention to whether you are working in the details or the big picture and develop the habit of shifting your focus back and forth constantly. That's how you can keep things in proportion and perspective. That's how you can see the relationships between things as well as the things themselves.

The Purpose of Building Codes

International Building Code (USA) - 2000 edition

101.3 ***The purpose of this code is to*** establish the minimum requirements to ***safeguard the public health, safety and general welfare*** through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property ***from*** fire and other ***hazards attributed to the built environment.***

Big Picture in White - Details in Blue

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Bringing this back to building codes - here is how I view the details and the big picture in codes. This is the purpose statement from the International Building Code (USA). The statement I've highlighted in white is the Big Picture. The rest is Detail. The purpose is safeguarding the public from hazards attributable to the built environment. It doesn't limit responsibility to only hazards that occur at the building site or even to hazards that occur during the life of the building.

What's Protected and What's at Risk?



Modern building codes enable us to design and build structures that are safe for their occupants, making it seem that we've eliminated or greatly reduced the risks associated with buildings.

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Our modern building codes enable us to design and build buildings that rarely burn down, fall down, trap people in emergencies, expose them to raw sewage, electrocute them, let them fall from high places, suffocate them too quickly, and so forth. Thus we think we've eliminated or greatly reduced the risks associated with buildings.

Our Buildings May Be Safe, However...

We've just moved those risks in space and time:

- away from the building site into all the natural systems that support life on earth, and
- into the future, to our children and the future generations of all the other species on whose health and welfare our welfare also depends.



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What we've actually done is move those risks in space and time. We've moved them away from the building site out into all the natural systems on the planet - our life support systems, and from the present to our children and grandchildren and all the future generations of all the other species on whose welfare our welfare also depends.

Big Problems Hidden in Plain View



Looking at buildings through codes is like looking through a microscope. Through that lens, individual building-related risks look large, filling our field of view. But it's like dealing with smaller risk with tweezers while creating huge, generalized risk for everyone.


That risk is many orders of magnitude greater but has remained almost totally outside our field of view.



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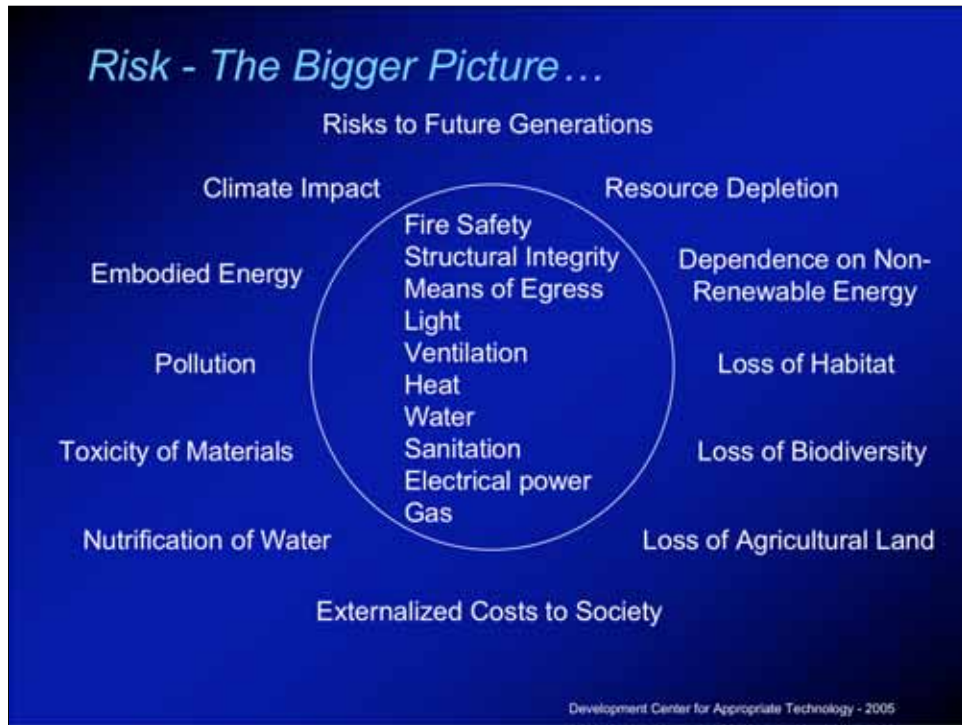
It's like we're looking at risk related to buildings through a microscope. We can see all the important risks to people in and around buildings. But important as they are, these are the risks at the smallest and most specific level and they completely fill our field of view. It's like we're dealing with risk with tweezers while at the same time, the actions we're taking to minimize risk at this level are creating many orders of magnitude greater generalized risk that can't be seen through that lens.

Risk - Through the Microscope of Codes...



Fire Safety
Structural Integrity
Means of Egress
Light
Ventilation
Heat
Water
Sanitation
Electrical power
Gas

When we take our eye away from the microscope, and see the larger risk profile of the various things we're doing and requiring people do, we begin to get a sense of what's required to fully attend to the responsibility of safeguarding public health, safety and welfare - especially in the global context and in terms of future generations.



When we take our eye away from the microscope, and see the larger risk profile of the various things we're doing and requiring people do, we begin to get a sense of what's required to fully attend to the responsibility of safeguarding public health, safety and welfare - especially in the global context and in terms of future generations.

Performance-Based Codes

The shift toward performance-based building codes allows us to develop performance criteria for sustainability. With them we can begin to address larger threats to public health, safety and welfare that can be attributed to the built environment yet occur away from the building site or in a time frame beyond the life of the building.

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The shift toward performance-based codes creates the opportunity to begin to introduce into codes a serious response to this now visible responsibility. That is what introducing a sustainable context to building codes is about. It is about seeing this bigger, longer-term picture of risk and responsibility and acting to address it. These are real risks that are attributable to the built environment and are thus part of the core responsibility of safeguarding the public.

Performance-Based Codes

Performance-based codes can give us the means to protect the things that need to be protected with out undue limitations on how we do it.

But it's actually a bigger question than choosing between *performance* and *prescriptive* codes... we can begin to consider *proscriptive* performance-based codes...

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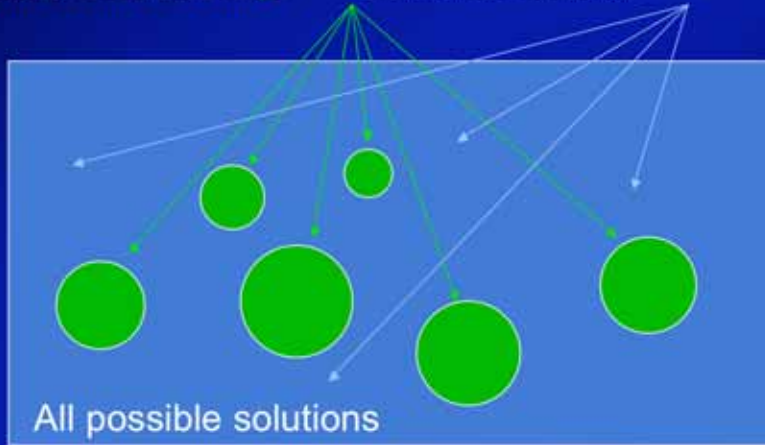
Most of the time the conversation is about the choice between prescriptive and performance codes. But there are also proscriptive codes - most of the Ten Commandments are proscriptions - "Thou Shalt Not" statements...

Prescriptive vs Proscriptive Codes

With *Prescriptive Codes* you can do some things

You can do these things

... but not any of this



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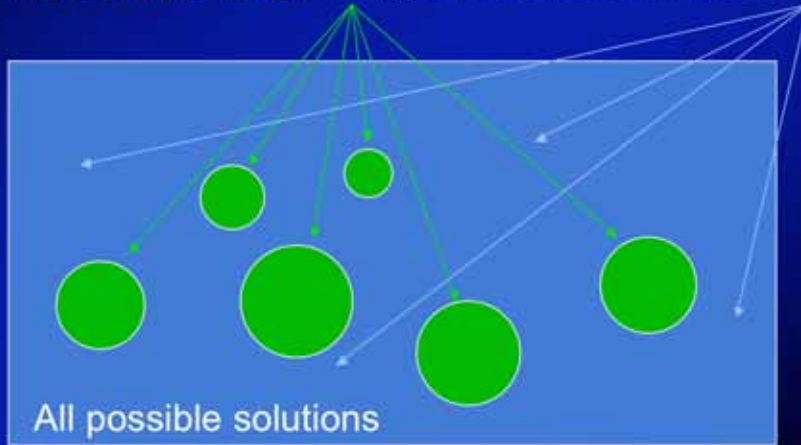
If we think of set theory, we can see that prescriptive approaches essentially say, of the field of possibilities you can do this or this this...etc. but not anything else...

Prescriptive vs Proscriptive Codes

With *Proscriptive* Codes you *can't* do some things

You can't do these things

...but you can do any of this



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With proscriptive codes, you can't do this or this or this, but the rest of the field is available to you. And they can be performance based proscriptions...

Performance Codes & Building Lifecycle

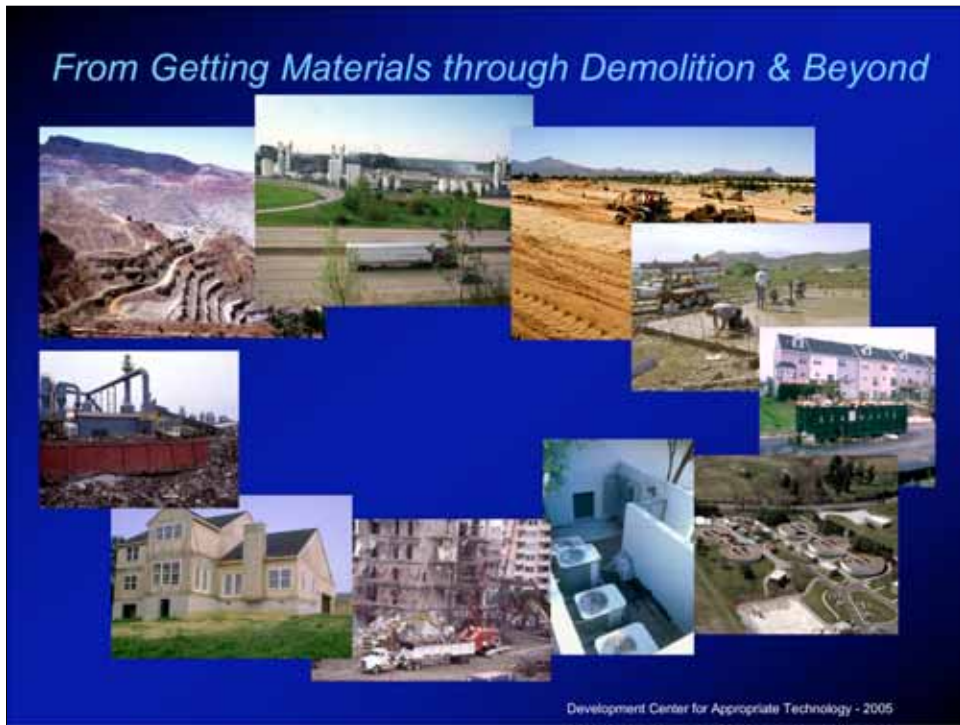
This gets us back to thinking about building codes as a set of principles for what buildings should and shouldn't do...

A First Principle - a corollary of the Hippocratic Oath - is that buildings should first do no harm.

But to consider the harm a building does we have to consider the impacts from its entire lifecycle...

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The focus of performance codes on what needs to be accomplished rather than on how that is done makes it easy to imagine the codes as a set of principles about what buildings should and shouldn't do. A good first principle might be a corollary of the Hippocratic Oath - that a building should first do no harm. In order to consider the harm a building might do, however, we'd need to consider the entire lifecycle of the building...



This starts with the acquisition of resources and their transportation and processing and extends to the impacts of the building on the land and the infrastructure it requires. We'd need to consider the impacts of the construction process, the wastes generated, toxic chemicals used, the flow of resources through the building over its lifetime for repair, maintenance and refurbishing and for the services we demand of our buildings. And then we'd need to think of the impacts at the end of the life of the building and out into the future, and whether the materials are reusable, recyclable, toxic, or will just end up in the landfill.

Doing No Harm...?

This is my grandson, Joe.
Does what we're doing
insure that our buildings
do no harm to him, or to
his grandchildren?



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Building codes have the intention that buildings do no harm, but only certain kinds of harm, and almost exclusively, harm to their occupants. This has only recently come to include things such as indoor air quality and toxicity of materials. So we have a system that affects everything from the acquisition of resources through to the impacts of buildings extending well beyond their demolition, but focused on a very narrow set of concerns. This is my grandson, Joe. He is a big part of my inspiration for the work I do. I can't think about these issues without relating them to Joe and to his grandchildren or the billions of other children and grandchildren the world over. These are not abstract issues. They are real and personal for me as they should be for all of us. They are about our responsibility to recognize risk and dealing with it appropriately.

Big Problems Hidden in Plain View

We cannot solve our problems with
the same thinking we used when we
created them.

- Albert Einstein

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We need a bigger picture in order to deal with this larger set of issues. We're called to rise to higher level of thinking and and authority and responsibility. But this is also an enormous opportunity for leadership and there is a huge need for it now.

Responding Responsibly

Thinking deeply about our choices of materials and systems can lead to a strong *preference* for doing things as locally as possible, as simply as possible, and doing as little as possible of those things that we know are harmful or about which our knowledge and understanding is limited.



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We've come to trust highly industrialized materials and products because in certain ways their performance is very predictable. And we've abandoned our faith in the materials of which our oldest buildings and cities are built or which currently house more than half the world's population. But when we look at the larger risk profiles of many of the seemingly safe things we are doing, we discover something that isn't intuitively obvious - that we are creating real risk elsewhere and as we also create dependencies on non-sustainable levels of energy and resource consumption and production of wastes and pollution. In this context, lower-tech, more local and labor-intensive ways of doing things begin to re-emerge as safer paths for the long haul. Further, when we do things locally we get multiple benefits - lower energy use for transportation, improved local economies, more appropriate climate adapted buildings. But the biggest benefit is that when we do things locally we are more likely to discover the unintended consequences of what we're doing than if we do it a great distances because the feedback loops are much shorter and higher quality.

Simplicity Is Its Own Reward...

Appropriate technology is the lowest or simplest level of technology that can do the job well.

Appropriateness relates to where and for what purpose technology is used and the local cultural, resource, economic, and ecological context.

Truly appropriate technology doesn't make people or their communities dependent on systems over which they have no control. This means technologies that enhance the local capacity to meet local needs - the real foundation for safety, security and healthy communities.

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The name of my organization is the Development Center for Appropriate Technology. Many people ask what makes technology appropriate? A standard definition of appropriate technology is that it is the simplest or lowest level of technology that you can use to do well what needs to be done. I contrast that with our cultural bias that tells us that higher technology is always better, that there is an obligation to always use the highest level of available technology one can afford, and that when new technology is introduced the old technology becomes obsolete and is no longer useful. The reason we care about the level of technology that is used is that higher levels of technology come with higher levels of unintended consequences and at some point the consequences are not merely unknown, they are unknowable, especially in the time frame in which we must make our choices.

Appropriate technology isn't necessarily low tech. It is the right level of technology for what must be done, based on the specific use and real needs, circumstances, and to the degree that they are knowable, the consequences flowing from its use. It can be high-tech or no-tech or anything in between.

The best definition of truly appropriate technology is that it is technology that doesn't make people or their communities dependent on systems over which they have no control. If we think about this seriously, it means technologies that enhance the local capacity to meet local needs - which is the true foundation for sustainability and for real security.

Rethinking Long-Standing Assumptions

The Industrial Revolution - increase productivity by replacing labor with technology and resources. Now we have more people and fewer resources yet we're still full speed ahead with this project.

Human labor is one of our most renewable and abundant resources. Let's rethink our attitudes about building systems that are more labor and skill intensive rather than energy, resource and technology intensive.

Let's get smarter AND wiser... fit our systems to geo-bio-physical reality, not the other way around.

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The industrial revolution is about increasing productivity by replacing labor with technology and resources. It is still going on today. But today we have more and more people and fewer and fewer resources to go around. Yet we continue to do everything we can to eliminate labor intensity in everything we do. Human labor is actually an abundant and renewable resource. And in much of the world, labor is over-abundant and inexpensive and resources, technology, capital, and industrial infrastructure are scarce and expensive. We need to rethink much of what we are doing in order to create healthy sustainable communities, not just the least expensive, safe in the short term buildings. We need to be wiser about our choices and fit our actions and plans to what the living world will support.

Rethinking Long-Standing Assumptions

Many traditional non-industrial building systems & material were rejected because of labor-intensity, not because they're inferior or dangerous.

Lack of funding for research, testing and the development of standards makes it hard to gain approval for their use.



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There is a big problem for many older non-industrial building materials and systems. That is the ongoing lack of funding available to support the robust research, testing and development work to develop appropriate standards and codes. These are public domain, non-proprietary systems that have been abandoned not because they are necessarily inferior or dangerous but mostly because they are labor intensive and sometime also require some level of skill that their far less sustainable industrial counterparts don't. As we are faced with the loss of cheap energy to transport and process materials we will need to rely more often on local materials and less industrial ways of building. This is a path forward, not back.

Rethinking Long-Standing Assumptions

Those code organizations and agencies that also certify materials testing laboratories could begin to require these certified labs to do a certain amount of pro-bono testing for non-proprietary, public domain materials and building systems.

That could be a way to begin to address the lack of resources for developing the data and standards we need for appropriate use of local and regional materials and building systems.

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One way to address the long-standing lack of support for the research, testing and development of lower impact, more appropriate and sustainable building materials, especially those in the public domain, like earthen materials or bamboo or things like straw bale construction - non or semi-industrial non-proprietary technologies would be for those code organizations which certify testing labs to require a given amount of pro-bono testing every year from those labs...

Rethinking Long-Standing Assumptions

In the meantime, we can begin to combine conventional systems and materials with natural, and lower-tech materials and approaches.

And, we need to be ever more open to what may seem like radical innovations if we are to begin to take responsibility for the future. This means that we must continually assess and balance the full risk profiles of what we're doing. That will require us to change our thinking about the range of responses to the real and coming global changes.

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We need to realize that many of these simpler materials are compatible with industrial materials as well, and there are opportunities to combine them and rethink many of our notions about what is acceptable, safe and beneficial. It will become increasingly important for us to be more creative and responsive to changing circumstances, seeking the best solutions appropriate to local resources, skills, and conditions.

In the near term we are already seeing some remarkable efforts to explore low-impact building and development where people are striving to fit the footprint of the development within the land on which it sits. And much exploration is going on into more sustainable materials and there will also be a growing need to develop approval paths for non-standard practices so that these things can be tried and tested not only in laboratories but in actual practice.

Solutions Abound for Open Eyes and Minds

ZEDBED

www.zedfactory.com

Zero (fossil) Energy
Development



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This development effort in the UK is aimed at developing zero-footprint communities.

Solutions Abound for Open Eyes and Minds

Engineers Without Borders

www.ewb-usa.org/

Engineering solutions
for the 5 billion poor
not for the 1 billion rich-
Engineering with a
Human Face



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Many credible engineers from all over the world are engaging in making their skills relevant to very different standards that exist in places of great poverty and abject need. Seeing this sort of activity helps recalibrate our notions of risk and responsibility - not for lowering standards per se but making them attainable and appropriate to the realities of the places where they are needed - meaning among other things, seeking solutions that don't make people dependent on systems over which they have no control or are unable to build, maintain or operate themselves.

Solutions Abound for Open Eyes and Minds

ZERI - Zero Emissions Research and Initiatives

www.zeri.org/

Zero Waste Design
Bamboo structures
Natural Systems
Biomimicry
Eco-Industrial Systems



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ZERI is pioneering deeply integrated systems approaches to community sustainability that ties together building, development, food production, employment, and more. They have done some extraordinary work with Simon Velez and bamboo construction in Colombia and elsewhere.

Solutions Abound for Open Eyes and Minds

Ecological Building Network

www.ecobuildnetwork.org

Flyash Concrete
Earthen Building
Straw Bale Building
Rice Hull Cement
Bamboo Structures



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The Ecological Building Network in the U.S. is a small organization that is making a difference in many realms from publishing a new book - Making Better Concrete - about the use of flyash to improve the performance of concrete while offsetting the use of portland cement, to overseeing testing projects for alternative materials and partnering with other organizations to renew the effort to develop new, highly appropriate standards for earthen construction.

Solutions Abound for Open Eyes and Minds

Unprocessed/Untreated Rice Hulls for Insulation

www.esrla.com/



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Others are doing exceptional work looking at many surplus or waste materials and finding exceptional benefits such as using unprocessed rice hulls as insulation with inherent fire resistive and rot resistive properties.

Solutions Abound for Open Eyes and Minds

Alternative Wastewater Systems, Constructed Wetlands, Living Machines, Waterless Urinals, Composting Toilets...



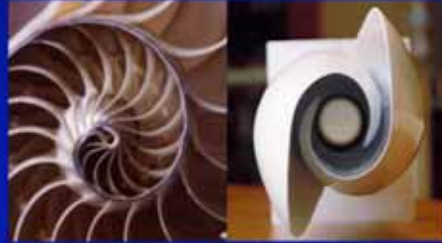
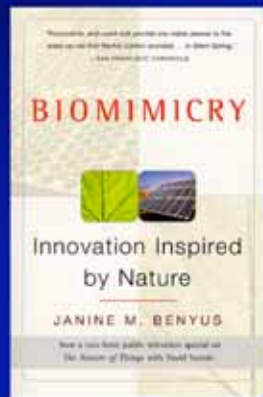
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And the list extends into the crucial area of research and development of strategies to deal with the worlds growing water and wastewater crises.

Solutions Abound for Open Eyes and Minds

Biomimicry

www.biomimicry.net/



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Perhaps as important as any work is a growing network of researchers who are studying the way natural systems work without doing harm to other natural systems or to life in general. The biomimicry network is a growing and important group of people seeking to use nature's wisdom - not to manipulate nature but to apply the same natural principles and strategies that exist all around us to solve the problems we are running up against.

Solutions Abound for Open Eyes and Minds

"For too long we have judged our innovations by whether they are good for us, which has increasingly come to mean whether they are profitable. Now...we have to put what is good for life first, and trust that it will also be good for us. The new questions should be "Will it fit in?," "Will it last?," and "Is there a precedent for this in nature?" If so, the answers to the following questions will be yes:

Does it run on sunlight?
Does it use only the energy it needs?
Does it fit form to function?
Does it recycle everything?
Does it reward cooperation?
Does it bank on diversity?
Does it utilize local expertise?
Does it curb excess from within?
Does it tap the power of limits?
Is it beautiful?" - Janine Benyus



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This excerpt from the book *Biomimicry*, by Janine Benyus sums up the basic principles found in almost all natural systems. We have much to learn but we're beginning to see the path forward and it will require us to be open to many new ideas and ways of thinking. But there is no greater challenge or opportunity for any of us than to be full fledged participants in this soft revolution in human systems and responsibility for the future.

Solutions Abound for Open Eyes and Minds

We have an opportunity to re-envision the role of building departments - from being the "building police" preventing bad things from happening to becoming effective community resources for the best building practices.

That requires us to psychologically partner with those designers, builders and developers pushing for more sustainable solutions - without abandoning our commitment to public health and safety.

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When the focus is exclusively on making sure that bad things don't happen it is easy to inadvertently make it nearly impossible for the best things happen as well. This happens all the time.

Solutions Abound for Open Eyes and Minds

It must become more difficult, and eventually unacceptable, to create unsustainable, "status-quo" buildings and developments.

We have an enormous set of challenges to overcome. We'll only overcome them by working together through non-adversarial partnerships with a long-range big-picture commitment to present AND future generations.

Development Center for Appropriate Technology - 2005

When the focus is exclusively on making sure that bad things don't happen it is easy to inadvertently make it nearly impossible for the best things happen as well. This happens all the time.

We're Making Progress in the US



Our strong relationships with U.S. code groups have led to increasing opportunities to present good information in their publications.

Development Center for Appropriate Technology - 2005

We've been helping move this process forward in the U.S. through our work with the ICC and other groups. We have pulled together six feature issues for U.S. code magazines since 1998.

The Shift is Happening in the U.S....



This is happening in
Seattle, Aspen, Chicago,
Scottsdale... Building
departments are starting
to provide real leadership.

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And in the June 2005 feature on green building, we featured major advances and leadership taken by building departments in Seattle Washington, Aspen Colorado, Chicago Illinois, and Scottsdale Arizona. It is possible for real leadership to emerge from within the building regulatory community and for strong and effective partnerships to begin to change how communities are designed and built - with a growing emphasis on doing it for the long haul.

Codes are a Gate, Officials the Gatekeepers

Dramatic changes are needed in every human system. There are many institutional barriers to those crucial changes and a phenomenal need for courageous leadership.

For the built environment, building codes are the gate and code officials are the gatekeepers. We must choose between facilitating or obstructing these changes.

There is much work to be done and the children and grandchildren of the world will be the ultimate judges of how well we do it...

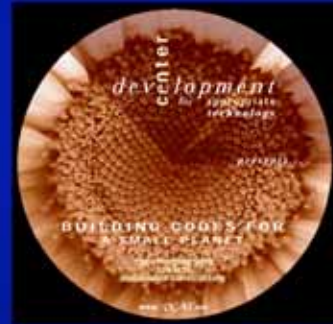
Development Center for Appropriate Technology - 2005

We are going to see big changes in how we do everything. For buildings, it's clear that the codes are a gate to these changes and innovations. And code officials are the gatekeepers. There is a choice to be made - whether to view the building department as a real community resource for the best practices and facilitate these changes or whether to focus on preventing the worst things from happening and impede them. There is a huge need for real leadership and some of it is already coming from within building departments that are seeing this larger context. It is the future generations who will be the ultimate judges of how we do.

DCAT Resources



www.dcat.net



Video /DVD

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DCAT has a website and we have also produced a 50 minute video that is available on DVD - Building Codes for a Small Planet that gives an overview of the issues involved in moving toward a sustainable context for building codes.



Thank you.

For More Information or to Contact Us

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