



International Society for Ecological Economics



Special Item of Interest

ISEE Forum on Ecological Economics and the Current Global Economic Crisis

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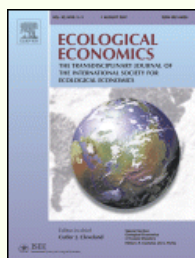
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President's Message: How can ecological economics respond to global financial crisis: from "we told you so" to construction of a "global green new deal" (Page 2)

Doesn't the global financial meltdown reinforce what we've always said? What is the real perspective for a "Global Green New Deal"? The contrast between these two discourses in our response to the global economic crisis suggests two different ways to approach an Ecological

ISEE ANNOUNCES ITS 11th BIENNIAL CONFERENCE: "ADVANCING SUSTAINABILITY IN A TIME OF CRISES" TO TAKE PLACE IN OLDENBURG AND BREMEN, GERMANY IN 2010 (Page 22)

The 11th Biennial ISEE Conference, 2010 will take place from 22 - 25 August, 2010 with the theme: "Advancing Sustainability in a Time of Crises". The conference will take place in the two adjacent cities of Bremen and Oldenburg. The city of Oldenburg is the economic, administrative and cultural centre of the Weser-Ems region in north-western Germany.



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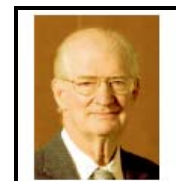
Herman Daly Gets a Timely Recognition: The Person of the Year for Adbusters Magazine

Herman Daly's ideas might help us claw our way out of the economic and environmental mess we are in.

Journal of Mental Environment

http://www.adbusters.org/magazine/81/Herman_daly_person_of_the_year.html

See Daly "THE CRISIS" Page 6 and "Big Idea: A Steady State Economy" Page 18





President's Message: How can ecological economics respond to global financial crisis: from "we told you so" to construction of a "global green new deal"

Doesn't the global financial meltdown reinforce what we've always said? What is the real perspective for a "Global Green New Deal"? The contrast between these two discourses in our response to the global economic crisis suggests two different ways to approach an Ecological Economics policy position. It's high time we put this out for discussion.

On the one hand, it can be argued that Ecological Economics has always warned decision makers of inevitable overshoot and collapse driven by the fossil fuel model. Herman Daly traced criticism of the intrinsic vulnerability in the global economy to capital footlooseness and excessively liberal financial flows back to Keynes, prescient in viewing globalization as a recipe for a destructive race to the bottom. Debates continue rife among our partisans from North and South on the tradeoffs between accelerated growth and sustainability.

Last spring's Paris conference on "Economic De-Growth for Ecological Sustainability and Social Equity" was an important forum to vent this contrast. According to the position statement that ensued from the conference: *"If we do not bring global economic activity into line with the capacity of our ecosystems, and redistribute wealth and income globally so that they meet our societal needs, the result will be a process of involuntary and uncontrolled economic decline or collapse, with potentially serious social impacts, especially for the most disadvantaged."* This dire prediction – often treated even by our members as a matter reserved to a medium term future for which it would be feasible to prepare – was borne to fruition only scant months since the Paris declaration was posted to the last issue of this *Newsletter*. Clearly, global society had the capacity to neither absorb the timeliness of this prediction nor to prepare for its consequences. Banking sector chaos and a downward spiral of confidence have ensued apace.

Far from being confined to the North, this is truly a global phenomenon. China's excessive

reliance on cheap exports and an accumulation of foreign exchange to the detriment of satisfaction of repressed internal demand are now slowing her economy. Other exporting economies are rapidly "degrowing". Brazil is facing a decline in international demand for primary commodities such as cellulose, pig iron, soybeans and beef, and has seen its moderate growth threatened by a repression of internal demand due to the credit crunch. Private banking consortia have pulled out of big dam projects in the Amazon and other infrastructure investments have had their schedules pushed back. India's rate of growth will decline, but here the enormous potential internal demand will support continued growth in 2009. In Europe, neither the decrease in the interest rate nor the pumping of government money into the economy will prevent "de-growth" of one or two percent in 2009.

Under such conditions, some among us may wish to afford ourselves the luxury of a seemingly well-earned "we told you so" to those who had not heeded our call to recast the economy. Prophets of catastrophe are not always afforded such an obvious opportunity to laud their visionary effectiveness.

A crisis also offers opportunities that must not be wasted. Carbon dioxide emissions are temporarily reduced, and this is certainly welcome, but cannot lull resolve. The crisis should be used in the rich countries to put the economies in a different trajectory as regards use of energy and materials, while countries such as China, India, and indeed many other countries need to find pathways toward cleaner economic growth.



ISEE President,
Peter May





President's Message

(Continued from Page 2)

The United States is savoring a momentary epiphany of institutional and societal renewal following the November elections and Obama's moving inaugural celebration in January. The moment promises a sea change in power and expectations in the world's principal economic axis, origin of the financial meltdown but traditionally the primary motor of demand for conventional economic growth. The Obama administration has already made clear by its appointments and management structure that a transition toward energy efficiency and renewables, and implementation of associated climate change mitigation policy hold central roles. This transition is urged despite immediate claims from opponents that the successive banking and automotive bailouts have weakened political resolve and removed any leeway remaining in the budget.

The idea of a "Green New Deal" (GND) provokes considerable excitement, but is as yet a totally untested concept. Detractors are convinced that for all its institutional innovations, Roosevelt's New Deal did little to stimulate a resurgence of economic growth that only really took off anew with the war effort. The shakeup in the banking industry in the early 1930s was only stabilized with the bankruptcy of some 14 thousand banks (most of which had in fact arisen during the Roaring Twenties), the creation of Federal investment insurance and credit restraints. Injection of capital or assumption of outright public ownership did not help then, so why should they now? critics argue. They want tax cuts and fiscal restraint, not Big Government. But their outcry is now confined to a conservative fringe; it took very little for the pundits of the American Economic Association to migrate en masse back to Keynesian tenets two decades after their wholesale abandonment for the market road in the Roaring Nineties. Time for recognition of entropy in the economic process...

The underlying idea behind the GND is that investment in energy alternatives may generate innovative new business startups, employ and redirect the skills of hundreds of thousands of workers laid-off due to the crisis and stimulate new patterns of infrastructure and educational innovation and investment. Energy efficiency costs money up front, but it pays for itself as scarcities and geopolitical polarities are expected to push petroleum and related prices back up. Rather than engage

in conventional countercyclical make work projects, why not invest in a green transition? The naysayers may just deserve to be abandoned to creative destruction...

Also encouraging to our way of thinking are the President's statements regarding "restoration of science to its rightful place" in speaking truth to power – a symbolic indication that business will no longer be conducted as usual. But this also places a great deal of responsibility on our shoulders as scientists, to provide constructive and immediate solutions to this crisis, now seen as an opportunity to proclaim new directions for investment and a decline in materialism. Critics of the ideological content of conventional scientific inquiry are in for a field day. Time for post-normal science...

The GND has spawned an international offshoot stemming from work by UNEP toward a Green Economy. A proposal for a Global GND has been formulated by UNEP's Economics and Trade Branch, to be advanced as a possible platform for the G20 and yet another rationale to buoy enthusiasm for action toward a Post-Kyoto climate consensus. In brief, the proposal suggests that the global financial crisis provides an unparalleled opportunity for international cooperation to "green" the economic recovery. Global capital should be freed-up for immediate investment in reducing carbon dependency in production and transport technology and infrastructure, and protecting against water shortages. Work is urgently needed on global governance, freeing up investment resources and promoting clean trade. Rather than dole out bucketfuls of dollars to an inert banking industry, government incentives should help to restore the growth trajectory of solar, wind and small hydro generation.

The ISEE is engaged in these discussions, and has an unprecedented opportunity to bring good science to bear on national and global policy development. We hope you will provide your comments on these ideas and help us build a unified position to help guide bold new undertakings.





Editorial: Ecological Economics and the Current Global Economic Crisis

The way in which the beginning of 2009 has come to represent a moment of change is really daunting. The arrival of a new presidency in the United States comes with ripple effects for the whole world. A shift away from the Bush political paradigm has enormous implications for ecological economists worldwide. An era of opportunities and good challenges seems to open ahead of us.

A significant element adding complexity to the current juncture for Ecological Economics is the current global economic (or maybe socio-environmental is more adequate) crisis, showing us the not so glossy side of interconnected economic systems depending on intangible wealth. We believe that this moment demands a reaffirmation of our transdiscipline through its application to the challenges that this economic downturn poses to the biosphere and all that live in it. Therefore, we have attempted a critical review of the possibilities for our field in a forum on “Ecological Economics and the Current Global Economic Crisis”, where different members and non-members of our society have contributed their perspectives to the issue.

Our president, Peter May, presents for us a revalidation of the ideas of our field in view of the current juncture. The notion of de-growth is highlighted as extremely opportune for the times. Further, he critically analyzes the idea of a “Green New Deal” and its potential to solve the challenges posed by current events.

James Pittman presents us with the basis of a new economy of sustainability and lays out a provocative set of elements that could constitute the backbone of such an economy. These proposals lie on the assumption of a shared global vision to improve our quality of life in harmony with

the environment.

In *Languages of Valuation*, Joan Martínez-Alier makes an incisive political ecological deconstruction of the crisis, arguing for a combined strategy including *sustainable de-growth* from the north, *environmentalism of the poor* strategies from the south and new models of valuation in support of the development of new political frameworks. This analysis is followed immediately by a short note by Costa Rican scholar and environmentalist Freddy Pacheco-León, who reminds us of the dangers in the way that governments behave in developing nations (even in “green” nations such as Costa Rica) dichotomizing economic development and environmental conservation in order to make orthodox economic decisions a logical choice in times of crisis.

Amid the contributions, we reproduce pieces that recognize enormous pertinence in the role of Ecological Economics at this time of change in the work of Herman Daly. Adbusters’ recognition of Dr. Daly as the person of the year signifies not only a well deserved award, but a definite example of how we have gained recognition as a school of thought (we use this term loosely). In reviewing Herman Daly’s ideas we reaffirm the relevance of the concepts we have promoted for two decades as a society.

We also try to bring, in an op-ed piece from our student membership, some fresh perspective as of some of the educational developments that we can find as pertinent for our membership. Tischa Muñoz-Erickson and Thaddeus Miller, use in their small piece concepts that not only portray a potentially successful sustainability education program, but that may also prove to be extremely relevant for the current economic situation: reflexivity and epistemological pluralism.



Bernardo Aguilar-Gonzalez



Ligia Umaña-Ledezma

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The dynamism of these topics is combined in this bulletin with the obvious strength that our regional societies are portraying in a year full of activity, which we try to represent here too. All in all, we hope this issue continues to provide more than announcements and becomes a source of reflection and critical analysis that contributes with the development (qualitative and quantitative) of the international community of Ecological Economics practitioners, academics, students and sympathizers.

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ISEE Forum on Ecological Economics and the Current Global Economic Crisis

The Crisis by Herman Daly with Tom Green

The turmoil affecting the world economy unleashed by the US sub-prime debt crisis isn't really a crisis of "liquidity" as it is often called. A liquidity crisis would imply that the economy was in trouble because businesses could no longer obtain credit and loans to finance their investments. In fact, the crisis is the result of the overgrowth of financial assets relative to growth of real wealth— basically the opposite of too little liquidity. We need to take a step back and explore some of the fundamentals that growth-obsessed economists and commentators tend to neglect.

After winning the Nobel Prize for chemistry, Frederick Soddy decided he could do greater good for humanity by turning his talents to economics, a field he felt lacked a connection to biophysical reality. In his 1926 book *Wealth, Virtual Wealth and Debt: The Solution of the Economic Paradox*, (a book that presaged the market crash of 1929), Soddy pointed out the fundamental difference between real wealth – buildings, machinery, oil, pigs – and virtual wealth, in the form of money and debt.

Soddy wrote that real wealth was subject to the inescapable entropy law of thermodynamics and would rot, rust, or wear out with age, while money and debt – as accounting devices invented by humans – were subject only to the laws of mathematics.

Rather than decaying, virtual wealth, in the form of debt, compounding at the rate of interest, actually grows without bounds.

Soddy used concrete examples to demonstrate the flaw in economic thinking. A farmer who raises pigs faces biophysical limits on how many pigs he can take to market. But if that pig farmer took on debt – a promise to repay at a future date – he would in effect be issuing a claim or lien on his future production of pigs. If he borrowed the equivalent value of 100 pigs, he could represent the loan on his balance sheet as "-100 pigs."

While debt as the farmer's accounting entry is negative, negative pigs do not really exist. If the farmer should suffer a series of lean years and be unable to pay the interest, he might soon owe more pigs than could be raised on his farm. After a year, with interest looming, he'd show "-110 pigs"; in 5 years, "-161"; in 40 (assuming a patient bank), "-4526." When the bank finally came to call on the pig

farmer to collect repayment of its loan, it could well find that most of the virtual wealth that had grown so written off as a loss.

Soddy's insights show us that the institutions of a growth economy lead to the type of crisis that hit the US economy in 2008. Real wealth is concrete. Financial assets are abstractions. Existing real wealth serves as a lien on future debt. For example, the 100 dollars of virtual wealth that I carry in my wallet are a lien on real wealth in that those dollars enable me to buy pork at the store. The problem that we're seeing in the US has arisen because the amount of real wealth is not a sufficient lien to guarantee the staggering outstanding debt which has exploded as a result of banks' ability to create money, loans given out on shaky assets and the US government's deficit, which has been stoked by financing the war and recent tax cuts. All of these factors are exacerbated by the compounding mechanism on debt. The debt is growing, and consequently, it is being devalued in terms of real wealth.

The conventional wisdom is that when faced with the threat of recession and business failure, the solution is to grow the economy so we can grow our way out of the crisis. But because the wrong diagnosis is made, namely that businesses are in trouble because access to credit has tightened, the wrong solution is proposed. Even if we could grow our way out of the crisis and delay the inevitable and painful reconciliation of virtual and real wealth, there is the question of whether this would be a wise thing to do.

Marginal costs of additional growth in rich countries, such as global warming, biodiversity loss and roadways choked with cars, now likely exceed marginal benefits of a little extra consumption. The end result is that promoting further economic growth makes us poorer, not richer. The cost of feeding and caring for the extra pigs is greater than the benefit of eating extra pork. To keep up the illusion that growth is making us richer, we deferred costs by issuing financial assets almost without limit, conveniently forgetting that these so-called assets are, for society as a whole, debts to be paid back out of future growth of real wealth. That future growth is very doubtful, given the deferred real costs, while the debt continues to compound to absurd levels.

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Daly (continued from Page 6)

What allowed symbolic financial assets to become so disconnected from underlying real assets? First, our economy is based on fiat money (paper money issued by governments) that has value by convention but isn't backed by any physical wealth. Second, our fractional reserve banking system allows pyramiding of bank money (demand deposits) on top of the fiat government-issued currency. Third, buying stocks and "derivatives" on margin allows a further pyramiding of financial assets on top of the already multiplied money supply. In addition, the financial sector was very inventive in coming up with new financial instruments that were designed to circumvent government regulation of commercial banks to protect the public interest.

The agglomerating of mortgages of differing quality into opaque and shuffled bundles that led to the sub-prime mortgage crisis should be outlawed. The US balance of trade deficit has allowed us to consume as if our economy was growing real wealth instead of accumulating debt. So far, US trading partners have been willing to lend the dollars they earned from running a trade surplus back to us by buying treasury bills but these treasury bills are liens on yet-to-exist wealth. Of course, they also buy real assets and their future earning capacity. Our brilliant economic gurus meanwhile continue to preach deregulation of both the financial sector and of international commerce (i.e. "free trade").

How then do we clean up this mess? A massive bailout – and having the US taxpayer take on billions in bad debt – is merely a way to keep the growth economy from failing a

little longer while allowing it to continue degrading the planet. Propping up such a destructive system makes no sense. Instead, we need to redesign our laws and institutions to foster an economy that remains within biophysical limits.

I would not advocate a return to commodity money (such as gold), but would certainly advocate gradually increasing reserve requirements for banks. Commercial banks should act as financial intermediaries that lend other peoples' money, not as engines for creating money out of nothing and lending it at interest. If every dollar invested represented a dollar previously saved, we could restore the classical economists' balance between investment and abstinence. Far fewer stupid or crooked investments would be tolerated if abstinence had to precede investment. Of course the growth economists will howl that such measures would slow the growth of GDP. I say so be it – growth has become uneconomic, and we have limited time to bring the economy into line with the biosphere's carrying capacity.

Were Soddy still around, I doubt he would be surprised by the havoc wreaked by all these two-legged Wall Street pigs, given that they were left free to raid whatever troughs they could poke their snouts into while drawing on conventional economic thinking to disguise their mess as innovations in finance. But I also think he would be disappointed that 80 years after the publication of his book, we still haven't figured out a way to tether the economy to reality – to ensure that the number of negative pigs can't grow without limit.

We have limited time to bring the economy into line with the biosphere's carrying capacity



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ISEE Forum on Ecological Economics and the Current Global Economic Crisis

The Call for a New Economy of Sustainability by James Pittman*

The financial crisis in the United States that is sparking a global economic crisis is quite different than the crisis that catalyzed the Great Depression. Ecological economist Herman Daly is one of the first to assert that the current crisis is not one of liquidity, rather it is a crisis of overgrowth in financial assets combined with a disregard for assets of real wealth.

Ecological economists have for decades warned of the risks and liabilities resulting from over-investment in intangible assets, over-reliance on debt financing and an entire financial system built on principles of continual growth. Beyond the financial debt from over-inflated intangible asset markets, there is also a shadow of social and environmental debt borrowed from future generations.

It is time for a new economy of sustainability to address financial, social and environmental issues all together. Ecological economists Herman Daly and Josh Farley have led the way to a new economic paradigm by outlining four elements essential to a new economy of sustainability:

1. SCALE - appropriate size of human systems relative to the greater biosphere, given regeneration and assimilation rates, with a precautionary buffer.
2. DISTRIBUTION - justice and equity in sharing of common resources needed to meet human needs, both intra- and inter-generational.
3. EFFICIENCY - informed market allocation of resources optimized for the most valuable uses.
4. GOVERNANCE - open participation of stakeholders with diverse perspectives in decision-making.

The current financial crisis is only one of several major challenges facing humanity at this point in history on Earth. Climate change, scarcity of cheap energy and raw material resources, stratospheric ozone depletion, fresh water shortages, species extinction and declining biodiversity, toxic contamination, soil fertility losses, land conversion, and ecosystem collapse threaten the sustainability of humanity's successes, our current and future quality of life, and possibly our survival as a species. Again, ecological economists have for decades warned of the economic risks imposed by these issues and proposed a transformation of economic science, policy and development in response.

The issues and opportunities emerging in global markets and local communities around the world require a new

economic paradigm that is designed around balanced approaches for ensuring economic efficiency as well as social justice and equity, environmental health, resilience and biodiversity all managed through good governance. Ecological economists and other leading pioneers of this new economic model have presented discussion points with many pieces of the puzzle. It is now time for these pieces to be crafted together into a comprehensive plan for economic, social and environmental sustainability.

Within and beyond the current crisis we acknowledge the imperative for designing a new economy of sustainability. With the dawn of a new political era in the United States, there is a widespread call for design of a new economy of sustainability. Elements that would comprise this imperative economic transformation include but are not limited to the following:

Restore Trust with Accountability - The confidence of investors, consumers and most individuals or entities will be restored most quickly if there is first trust that the individuals responsible for the current financial crisis have been held accountable. Investors and consumers will not take risks in a market without trust in assurances that past problems have been resolved and will not be repeated. This will require review of many asset types and market practices to fix the flaws that have been discovered in unregulated or under-regulated financial markets trading financial derivatives, securitized mortgages, credit default swaps and also the banks, firms and rating agencies. The need for enormous government bailouts and emergency assistance packages also justifies legislative review of corporate tax exemptions and loopholes, consideration of a reinstatement of the Glass-Steagall Act if not also federal court rulings on civil or criminal penalties that may be appropriate.

Restructure the Financial System - The current financial system in the United States is structured around a fiat currency generated without backing by any tangible asset, combined with an exponential accumulation of national debt charging economy-wide interest through constant rates of inflation. Together these result the necessity for continual economic growth and expansion of depreciating built capital to sustain the status quo. The flaws of this fractional reserve system are further compounded by sub-optimal reserve requirements and amplified by the designation of the U.S. dollar as the global

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Pittman (continued from Page 8)

reserve currency. Simply put, this system is not sustainable in economic, social or ecological terms--our economy violates natural laws and disregards limits to growth with impacts that are inequitably distributed around the world. Current events are just symptoms of the systemic problem, as is a ratio of national debt to GDP that has almost tripled in the last half century. A new economy of sustainability must be built on tangible assets, true value and real wealth within natural limits to growth.

Balance Market Freedom and Regulation - The current period of business requests for government bailouts and emergency spending in response to market failures stands in stark contrast to historic calls for tax loopholes and regulatory relief easing environmental and labor standards. This dissonant pattern of government relations with markets tends to increase benefit to private parties in periods of economic growth while subsidizing losses, potential from poor market strategies, in times of economic challenge. In both situations result in a disproportionate burden to public benefit and well-being for private gain. Healthy free markets and communities depend on a diverse multitude of market players with appropriate levels of regulatory standards and oversight. Governments may be needed to restrict corporate size and freedom to avoid further crises.

Tax Currency Trading Markets - There is approximately \$2 trillion of daily trading in currency markets and the vast majority of this is speculation trading that increases the turbulence and volatility of international currencies and global markets, particularly during a financial crisis. Speculative currency trading, especially short selling, destabilizes international currencies thus amplifying the negative effects of a financial crisis; yet the currency market has potential to be leveraged in a manner that eases the relative shortage of liquidity for capital investment in financial markets. The enormous liquidity of currency markets has potential to be taxed if not also shifted into public and private capital investment, particularly in green infrastructure and other assets discussed below. One proposed tax mechanism is a relatively small 1% tax on all

currency trades as proposed in the 1970's by economist James Tobin and in 1989 by former U.S. Treasury Secretary Lawrence Summers.

Implement Ecological Fiscal Reform - The global community is moving a direction of developing strategic policies that refocus national taxation and expenditures programs in an integrated approach to create incentives to for investments in sustainable development. Comprehensive fiscal reform builds on a polluter pays principle to create a system of green taxes on pollution, excessive nutrient outflows, hazardous waste and toxic chemical use these funds would be used to fund toxic waste management, brownfield reclamation, habitat restoration and other activities to mitigate environmental damage. A comprehensive and systemic reform is necessary to address environmental justice concerns as environmental hazards, pollution and waste toxicity result in impacts that are inequitably concentrated in poor communities. Fiscal reform requires consideration of social equity adjustments to reduce impact on poor, also tax neutrality with corresponding reduction of payroll or personal income taxes to retain jobs while discouraging inefficient resource consumption and waste production.

Shift Investment to Renewable Energy - The vast majority of public investment in energy research and technology development is directed to subsidize non-sustainable, non-renewable resources from fossil fuel sources; only fraction of that is directed to clean, renewable technologies. Public investments must be shifted to subsidize sustainable development through a green energy and clean technology solutions. Tax incentives can also be used to complement this strategy in order to shift private investment to renewable energy resources and technologies. Global emissions of greenhouse gases can also be reduced through establishment of a carbon tax or market mechanisms for providing incentives for a shift to renewable resource alternatives. These shifts in investment will reduce dependence on foreign oil and the effects of global climate change.





ISEE Forum on Ecological Economics and the Current Global Economic Crisis

Pittman (continued from Page 9)

Develop Global Economic Indicators - Economics as a science evolved to develop macroeconomic indicators when it was clear that microeconomic indicators were insufficient for addressing socio-economic issues during the Great Depression. A similar evolution in economic science is at hand and pioneering ecological economists have developed and applied a number of indicators with potential for use as new national accounting indicators or development into global scale economic indicators. These include the Index of Sustainable Economic Welfare (ISEW), the Genuine Progress Indicator (GPI), the Gross National Happiness Indicator, the Gini Index and also other indicators for measuring genuine natural wealth and common social well-being. It may also be appropriate to review the ethical feasibility of using Gross Domestic Product (GDP), Gross National Product (GNP) and Consumer Price Index (CPI) in any cases where those indicators are subject to potentially biased corrective adjustments (substitution, weighting, hedonics, imputations, etc.); these practices may ultimately obscure the true economic reality of working people experiencing relative changes in price and quality of and access to basic means of life.

Maintain Long-term Resource Stocks - Businesses, local communities and ecosystems have historically been challenged by boom and bust cycles of economic development from extractive industries exhaust natural resources in one location after another. This over-harvesting of marine and terrestrial resource stocks provides short-term gain to a few people at the expense of long-term economic efficiency and development, social well-being and community stability as well as ecological resilience. Scientific advancement has developed a wide range of technical tools for managing biological resource stocks with the goal of maximizing long-term benefit rather than smaller short-term gains. These resource management systems depend on scientific monitoring and analysis methods that create a broad range of professional jobs and educational. Regulatory and market mechanisms can be developed to encourage management planning and sustained yield harvest methods that will improve long-term economic, social and environmental sustainability of resource management.

Encourage Investment in Real Wealth - Investment in derivatives and intangible financial assets without regard to extreme risk is the ultimate cause of the current financial crisis. The boom and bust of financial asset markets presents a volatile and uncertain investment

option that is increasingly risky in the current economic circumstances. Alternatives include investment in tangible natural capital assets in the form of healthy, intact ecosystems providing a range of services with tremendous economic value, and also investment in assets of human potential and social capital; these investments are generally undervalued rather than overvalued and frequently appreciate over time. Natural, human and social investments provide a much wiser investment in less risky assets that provide a greater economic contribution to long-term well-being than financial assets.

These are only seeds of ideas for designing a new economy of sustainability, and ecological economists are seeking others who to join us in cultivating these seeds. We hope to build this new economy on the core premise that humanity shares a common general vision of a quality life with secure access to essentials for survival including food, water, and shelter; education and healthcare, job opportunities, religious and cultural freedom in safe, healthy communities and environments. We depend on these elements of a quality life for current generations and also to ensure a promising future for children and future generations. These aspirations are not only shared by the whole of humanity but also by individual people across cultures and time as the determinants of human happiness and well-being.

The existing economy has not been supporting these outcomes, and this is causing the need for economic transformation. In order to achieve that, the new economy of sustainability must also preserve and advance the valuable assets of culture, language, knowledge, critical built capital, biodiversity, climate stability, biophysical cycles and healthy ecosystems on Earth. Ecological economist David Batker suggests that the impending social transformation is part of a natural evolution in the science of economics: microeconomics held sufficient concepts and tools for us to make the journey only so far, so we developed macroeconomics to continue and again we are finding need for new concepts and tools for a global-scale economic paradigm.

** James Pittman is an ecological economist and professional consultant currently working for Earth Economics in Tacoma, Washington, USA. James has been a pioneer of ecosystem service analysis and funding mechanisms, industrial sustainability assessment, green business models, education and training innovations, participatory processes for organization and community change and other sustainability initiatives for over a decade. He also teaches sustainability and systems design at Prescott College, the Ecosa Institute and the Bainbridge Graduate Institute.*





Languages of Valuation by Joan-Martinez Alier, ICTA, Universitat Autònoma de Barcelona

With the economic crisis, *la décroissance est arrivée* in Europe, the United States, Japan at least for 2008 and 2009. This economic crisis affords an opportunity to put the economy of the rich countries on a different trajectory as regards material and energy flows. Now is the time for a permanent socio-ecological transition to lower levels of energy and materials use. The crisis might also give an opportunity for a restructuring of social institutions. The objective in rich countries should be to live well without the imperative of economic growth. It seems that happiness is not related to income growth, above a certain level of income. Moreover, economic accounting does not properly count environmental damages and the exhaustibility of resources. For twenty years, the orthodox slogan was Sustainable Development (Brundtland Report, 1987) meaning economic growth that is environmentally sustainable. We know however that economic growth is not environmentally sustainable. Now is the time in rich countries for socially sustainable economic de-growth, reinforced by an alliance with the “environmentalism of the poor” of the South.

The economy has three levels

I remember Frederick Soddy's *Wealth, Virtual Wealth and Debt* published in 1926. He had a Nobel Prize in Chemistry and was a professor at Oxford as explained in my book *Ecological Economics* of 1987. Also Herman Daly wrote on Frederick Soddy. His main point was simple and applies today. It is easy for the financial system to increase the debts (private or public debts), and to mistake this expansion of credit for the creation of real wealth. However, in the industrial system, growth of production and growth of consumption imply growth in the extraction and final destruction of fossil fuels. Energy is dissipated, cannot be recycled. Real wealth would be instead the current flow of energy from the sun. Economic accounting is false because it mistakes depletion of resources and the increase of entropy for wealth creation.

The obligation to pay debts at compound interest could be fulfilled by squeezing the debtors for a while. Other means of paying the debt are either inflation (debasement of the value of money), or economic growth - which is falsely measured because it is based on undervalued exhaustible resources and unvalued pollution. This was Soddy's doctrine. He was certainly a precursor of ecological economics.

In other words, the economy has three levels. At the top there is the financial level that can grow by loans made to the private sector or to the state, sometimes without any assurance of repayment as in the present crisis. The

financial system borrows against the future, on the expectation that indefinite economic growth will give the means to repay the interests and the debts. Banks give credit much beyond what they have got as deposits, and this drives economic growth at least for a while. Then there is what the economists describe as the real economy, the so-called productive economy. When it grows, it indeed allows to pay back some or all the debt, when it does not grow enough, debts are defaulted. The mountain of debt had grown in 2008 much beyond what the increases in GDP could pay back. The situation was financially not sustainable. But the GDP itself is not ecologically sustainable. Down below, in the basement and foundations of the economic building, underneath the economists' real economy, there is the third level: the ecological economists' *real-real* economy, the flows of energy and materials whose growth depends partly on economic factors (types of markets, prices) and in part from physical limits. At present, there are not only resource limits but also sink limits: climate change is caused mainly by of the excessive burning of fossil fuels.

Economic de-growth and carbon dioxide emissions

The economic crisis will mean a welcome change to the totally unsustainable increase of carbon dioxide emissions. In the five years before 2008 carbon dioxide emission were growing over 3 per cent per year in a trend that meant doubling in 20 years when they should decrease at least 50 per cent as soon as possible. The Kyoto objective of 1997 is generous with the rich countries because it gave them property rights on the carbon sinks and the atmosphere in exchange for the promise of a reduction of 5 per cent of their emissions relative to 1990. This modest Kyoto objective will now be fulfilled more easily, and the carbon trade will collapse unless lower caps are adopted, as they should. Air travel, housing starts, car sales have decreased in the second half of 2008 in many European countries and the USA. Motorists in the USA were buying 9 per cent less gasoline in early October 2008 than in early October 2007.

However, the apostles of growth are not willing to use the current crisis to shift the economy to a different technological and consumption pattern. On the contrary, *The Economist* (14 Nov. 08) argued that despite slower growth in emerging markets, there are reasons to think car sales will remain strong because, while the United States have nearly one car for every person of driving age, China has less than three cars for every 100 people and India fewer still. “Once people have a roof over their heads, meat on the table and a good job, the next thing they want is a set of wheels” – pontificates *The Economist*. In the next 40

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years, the world's fleet of cars is expected to increase from around 700m today to nearly 3 billion. The Economist concludes that although for some greens and pedestrians such growth is a terrifying prospect, for today's embattled carmakers in Detroit and elsewhere it is an exciting one. Exciting metaphysics indeed! How will the real economy impact on the *real-real* economy? How will the cars be fuelled? Electricity? Hydrogen? What will the energy cost be?

There is a historic trend towards increasing energy costs of obtaining energy (a lower EROI). Coming down from the peak of the Hubbert curve will be politically and environmentally difficult. Conflicts arise in the Niger Delta and in the Amazonia of Peru and Ecuador against companies such as Shell, Repsol, Oxy. Appeal to some other energy sources (agro-fuels, nuclear energy) will compound the difficulties. Wind and photovoltaic energy are fortunately increasing. They will help to compensate for the dwindling supplies of oil over the next few decades. Coal supplies are increasing (they already grew seven times in the 20th century) but coal is noxious locally and also globally because of carbon dioxide emissions.

Economic accounting is wrong

The teaching of economics is still based on an image of the economy as a merry-go-round between consumers and producers. They encounter each other in markets for consumer goods or in markets for the services of production factors (like selling labour time for a wage). Prices are formed, quantities are exchanged. This is Chrematistics. Macroeconomic accounts (GDP) aggregate the quantities multiplied by the prices. The economy may be described however in a different way, as a system of transformation of (exhaustible) energy and materials (including water) into useful products and services, and finally into waste. This is Bioeconomics or Ecological Economics (from N. Georgescu Roegen 1966, 1971, Herman Daly 1968, A. Kneese and R.U. Ayres, 1969, Kenneth Boulding, 1966). Now it is the moment to substitute GDP by social and environmental indicators at the macro-level. The discussion on *décroissance soutenable* or socially sustainable economic de-growth, that Nicholas Georgescu-Roegen started thirty years ago, should now become a main topic for discussion in the rich countries. The critique of conventional economic accounting often emphasizes the forgotten current values of environmental services from ecosystems. The environmental services from

coral reefs, mangroves, tropical rainforest may be given a notional money value per hectare per year, and then the lost hectares are translated into virtual economic losses. This approach is good in order to impress the public with the importance of environmental losses but it is certainly insufficient in order to grasp the relations between economy and environment.

Our economy depends on the photosynthesis of millions of years ago for our main energy sources. It depends on ancient biochemical cycles for other mineral resources that we are squandering without replacement. In the case of oil, the extraction peak will be reached soon. We are taking almost 87 mbd – in terms of calories, the world average is equivalent to about 20,000 kcal per person/day (ten times the food energy intake), and in the USA it is equivalent to 100,000 kcal per person/day. In exosomatic energy terms, oil is then far more important than biomass. The present economic crisis is not only a financial crisis, and it is not caused only by a supply of new houses in the United States that exceeded the demand that could be financed sustainably. It was also caused by high oil prices. The stock exchange started to drop in January 2008 but until July 2008 the price of oil kept increasing.

Houses were sold to people who were unable to pay the mortgages, or houses were built (as in the large acreage of new empty houses in Spain) on the hope that credit-worthy buyers would appear. Real salaries in the United States did not increase much in the last years but credit to consumers had indeed grown. Income distribution had become more unequal. Household savings were at a minimum when the crisis started. The bankers apparently thought that economic growth would continue and would increase the value of the houses that were mortgaged. They “packaged” the mortgages and sold them to other banks which sold or tried to sell them to innocent investors. Now the housing boom has ended. The private building industry has nearly stopped in some countries.

Part-nationalization of some banks in the EU and the USA has avoided sudden widespread bank failure, at the cost of raising the public deficit. Deficit spending in a situation of lack of aggregate demand is a Keynesian prescription with which one might readily agree at present – it should go to solve the most pressing social problems and to environmental investments, and not to military spending (to secure oil?) or to the car and motorway industries. In any case, the financial free-for-all was not the only cause of





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of the crisis, which was triggered by high oil prices due not only to the OPEC oligopoly but also to the approaching peak-oil. In fact, economic theory does not say that an exhaustible resource should be sold at the marginal cost of extraction. Oil at 150 US\$ a barrel is still cheap from the point of view of its fair inter-generational allocation and the externalities it produces.

Nowadays, as the crisis deepens, the price of oil goes down but it will recover in real terms if and when the economy grows again. There is here an automatic “de-stabiliser” for the economy. A low price of oil implies a declining supply in a few years because of declining investment in the fields with higher marginal costs. Moreover, OPEC will try and reduce oil extraction during the crisis to keep the price up. The scheduled OPEC meeting of mid-November 2008 was brought forward to 24 October, when it was decided to cut oil extraction by 1.5 mbd. Another meeting is scheduled for December 2008. Oil prices will increase as soon as the economic recovery starts.

The GDP of the Poor

One may readily agree that conventional economic accounting is certainly misleading. The experience that Pavan Sukhdev (with Haripriya Gundimedia and Pushpam Kumar) gained in India trying to give economic values to non-timber products from forests, and to other environmental services (such as carbon uptake, water and soil retention), has been an inspiration for the TEEB process (The Economics of Ecosystems and Biodiversity) sponsored by DG Environment of the European Commission and by the German Minister of Environment. As the TEEB team states, a monetary representation of the services provided by clean water, access to wood and pastures, and medicinal plants, does not really measure the essential dependence of poor people on such resources and services.

In National Income Accounting one could introduce valuations of ecosystem and biodiversity losses either in satellite accounts (physical and monetary) or in adjusted GDP accounts (“Green Accounts”). The economic valuation of losses might be low compared to the economic gains of projects that destroy biodiversity. However, which groups of people suffer most by such losses?

In their project “Green Accounting for India” they found that the most significant direct beneficiaries of forest biodiversity and ecosystem services are the poor, and the predominant impact of a loss or denial of these inputs is on the well-being of the poor. The poverty of the beneficiaries makes these losses more acute as a proportion of their “livelihood incomes” than is the case for the people of India at large.

Hence the notion of “the GDP of the Poor”: for instance, when water in the local river or aquifer is polluted because of mining, they cannot afford to buy water in plastic bottles. Therefore, when poor people see that their chances of livelihood are threatened because of mining projects, dams, tree plantations, or large industrial areas, they complain not because they are professional environmentalists but because they need the services of the environment for their immediate survival. This is the “environmentalism of the poor”.

In *Down to Earth* (15 August 2008), Sunita Narain gave current examples from India: “In Sikkim, bowing to local protests, the government has cancelled 11 hydro-electric projects. In Arunachal Pradesh, dam projects are being cleared at breakneck speed and resistance is growing. In Uttarakhand last month, 2 projects on the Ganga were put on hold and there is growing concern about the rest. In Himachal Pradesh, dams are so controversial that elections were won where candidates said they would not allow these to be built. Many other projects, from thermal power stations to “greenfield” mining, are being resisted. The South Korean giant Posco’s iron ore mine, steel plant and port are under fire. The prime minister has promised the South Korean premier the project will go ahead by August. But local people are not listening. They don’t want to lose their land and livelihood and do not believe in promises of compensation. In Maharashtra, mango growers are up in arms against the proposed thermal power station in Ratnagiri. In every nook and corner of the country where land is acquired, or water sourced, for industry, people are fighting even to death. There are wounds. There is violence. There is also desperation. Like it or not, there are a million mutinies today... After I visited Kalinganagar, where villagers died protesting against Tata’s project, I wrote this was not about competition or Naxalism. These were poor villagers who knew they did not have the skills to survive in the modern world. They had seen their neighbours displaced, promised jobs and money that never came. They knew they were poor. But they also knew modern development would make them poorer. It was the same in prosperous Goa, where I found village after village fighting against the powerful mining lobby ...”

These movements combine livelihood, social, economic and environmental issues, with emphasis on issues of extraction and pollution. They set their “moral economy” in opposition to the logic of extraction of oil, minerals, wood or agro-fuels at the “commodity frontiers”, defending biodiversity and their own livelihood. In many instances they draw on a sense of local identity (indigenous rights and values such as the sacredness of the land) but they also connect easily with the politics of the left. However, the traditional left in southern





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countries still tends to see environmentalism as a luxury of the rich.

Toxic Assets and Poisonous Liabilities

The assets that take the form of claims to debts that will remain unpaid, have been given the funny name of Toxic Assets. In the balance sheet of banks, the value of such assets will have to be downsized or written off. On the liability side of the balance sheet, our accounting conventions do not include damages to the environment. An enormous "carbon debt" is owed to future generations, and to the poor people of the world who have produced little greenhouse gases. Large environmental liabilities are also due by private firms. Chevron-Texaco is being asked to pay back 16 billion dollars in a court case in Ecuador. The Rio Tinto company left behind very large liabilities since 1888 in Andalusia where it got its name, also in Bougainville, in Namibia, in West Papua together with Freeport McMoran... debts to poor or indigenous peoples. Shell has very large liabilities in the Niger Delta. Don't worry. These poisonous debts are in the history books but not in the accounting books.

Decisions may indeed be improved by giving money values to environmental resources and services which are undervalued or not valued at all in conventional economic accounting. But there are other considerations. First, don't forget our uncertain knowledge about the working of ecosystems, and about the impact of technologies. Second, do not exclude non-monetary values from decision making processes. Don't practice the fetishism of fictitious commodities.

Look at the current case of Vedanta bauxite mining in the Niyamgiri hill in Orissa. The decline in the price of aluminium as the economic crisis deepens might save the Niyamgiri hill. It has dropped more than half in the last months of 2008. Therefore, bauxite is also cheaper. We may still ask: how many tones of bauxite is a tribe or a species on the edge of extinction worth? And how can you express such values in terms that a minister of finance or a Supreme Court judge can understand? Against the economic logic of euros and cents, the peasant and tribal languages of valuation go unheeded. These include the language of territorial rights against external exploitation, the ILO convention 169 which guarantees prior consent for projects on indigenous land, or in India the protection of the adivasi by the Constitution and by court decisions. Appeal could be made also to ecological and aesthetic

values. The Niyamgiri hill is sacred to the Dongria Kondh. We could ask them: How much for your God? How much for the services provided by your God?

Pluralism of values

The question is not whether economic value can only be determined in existing markets, inasmuch as economists have developed methods for the monetary valuation of environmental goods and services or of negative externalities outside the market. Rather, the question is: must all evaluations in a given conflict (on extraction of copper and gold in Peru or bauxite in Orissa, on a hydel dam in the North-East of India, on the destruction of a mangrove in Bangladesh or Honduras to the benefit of shrimp exports, on the determination of the suitable level of carbon dioxide emissions by the European Union), be reduced to a single dimension?

We should reject such an exclusion of values favouring instead the acceptance of a plurality of incommensurable values. In decision-making processes, economics becomes a tool of power. This is the case when applying cost-benefit analysis to individual projects, and also at the level of the macro-economy where increases in GDP trump other dimensions. The question is, who has the power to simplify complexity and impose a particular language of valuation? With the economic crisis, will now be an end to the boom in exports of energy and materials thus diminishing pressures at the commodity frontiers? The European Union, Japan, the United States and some parts of China and India are very large net importers of energy and materials. The United States, having reached the peak of the internal Hubbert curve in the 1970s, imports more than half the oil it consumes. These imports of energy and materials into rich countries must by necessity be relatively cheap for their social metabolism to work properly. As Hornborg put it in 1998, "market prices are the means by which world system centres extract exergy (i.e. available energy) from the peripheries", aided some times by military power. The attempt to make Irak produce an extra 2 or 3 mbd failed after 2003, as Alan Greenspan noted sadly in his memoirs. OPEC after the drop on the price of oil in 1998, and helped by efforts of Hugo Chavez from Venezuela and the economic boom in China and India, had successfully managed the restriction of supply. The price of oil peaked in 2007-08. Things were so good for the oil exporting countries that in his speech when Ecuador rejoined OPEC in 2007, president Correa cleverly proposed to put an eco-tax on exports that would be recycled for





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social and environmental purposes, financing the necessary energy-transition. OPEC countries have dismissed the existence of the enhanced greenhouse effect. This eco-tax would show their concern for climate change.

Grandiose plans for more and more exports from Latin America were pushed particularly by President Lula of Brazil. More roads, pipelines, harbours and *hidrovias*, more exports from Latin America of oil, gas, coal, copper, iron ore, soybeans, cellulose, biodiesel and ethanol, this was the credo of President Lula. In October 2008, and in total opposition to the views of Via Campesina and the MST in Brazil, Lula was pushing for generally opening the world markets to agricultural exports. He went to go India to try and increase the rate of farmers' suicides by asking for the liberalization of agricultural imports and exports in the Doha round. True, the export boom gave Lula money for social purposes and increased his popularity. Petrobras was not less dangerous to the environment and to indigenous peoples of Latin America than Repsol or Oxy. Lula's obsession with primary exports made him do nothing about deforestation of Amazonia and drove environment minister Marina Silva to resign in 2008. What will the strategy of President Lula and the Latin American left be after the crash of 2008?

In late 2008 the economic crisis is bringing down the prices of commodities. Since July 2008, wheat, maize and soybeans have declined in price by 60 per cent, as also copper, nickel, aluminium. Part of the financial boom in Iceland was based on outside investments in the expectation of a multiplication of aluminium smelting. Environmentalists complained strongly against smelters and electricity plants that ruined pristine environments, a cost not factored into the economic accounts. The economy of Iceland stopped in October 2008. Banks could not give the money back to deposit holders. They have been nationalized.

While in the 1920s, commodities decreased in price a few years before 1929, this time the increase in commodity prices (helped also by misguided agro-fuel subsidies, by the OPEC cartel, and by financial investment in the futures market) continued for some months after the strong decline in the stock exchange had started. However, in late 2008 commodity prices are declining because of declining demand. The Baltic Dry Index measures shipping rates and it has declined precipitously since July 2008, partly because of decreasing Chinese imports of iron. The Mexican multinational CEMEX on 16 October announced that it would reduce its labour force by ten per cent around the world because of declining demand of "aggregates" and cement, while car factories in Europe and the USA have been reducing output since mid-2008. The price of oil is going down in late

2008 not because of increased supply but because of decreased demand. We are very near peak-oil, and this might anchor OPEC's attempt to restrict supply and keep the price at a level of 70 dollars in face of declining demand. Some oil projects (with low EROI and high marginal costs) such as the Alberta oil sand production and the Orinoco heavy oil exploitation might be stopped, as also the small but costly Yasuni ITT project in Ecuador.

For commodities other than oil, the exporting countries might react irrationally, maintaining or even increasing the supply in an attempt to maintain revenues. There might be a soybean price war between Argentina and Brazil. Instead, this would be the moment for Latin America, Africa and other net energy -and-materials exporters, to think of endogenous development, moving towards an ecological economy. Many Southern countries will also suffer from smaller migrants' remittances.

A refusal from the South to provide cheap commodities to the industrial economy, imposing natural-capital depletion taxes and export quotas, would also help the North (including some parts of China) in its necessary long-term path towards an economy that uses less materials and energy.

Bottom-up neo-Malthusianism

Environmental awareness might influence birth-rates (as in the European Neo-Malthusianism of 1900 and in China since 1980). Are we getting into the path for a reduction in world population to three or four billion people thereby reducing pressure on resources and sinks? The importance of population growth in the increase of Social Metabolism is obvious. Paul Ehrlich's equation $I = PAT$ could be applied historically, with an adequate indicator for T (technology). There were many debates around 1900 on "how many people could the Earth feed" focusing only on the needs of the human species. The Neo-Malthusians of the late 19th and early 20th centuries were political radicals and feminists. There was a large difference between the original Malthusianism of T.R. Malthus and the neo-Malthusianism of 1900. Scholarly historical work on neo-Malthusianism has clearly documented the radical, feminist movement in favour of limiting births in Europe and the United States around 1900. In France this movement took the name of *la grève des ventres*. In South India, Periyar took a similar line. In Brazil the feminist neo-Malthusian anarchist Maria Lacerda de Moura wrote: "Love one another more and do not multiply so much". This intellectual and social history allows me to present the following definitions.





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MALTHUSIANISM.- Population undergoes exponential growth unless checked by war and pestilence, or by chastity and late marriages. Food grows less than proportionately to the labour input, because of decreasing returns. Hence, subsistence crises.

NEO-MALTHUSIANISM OF 1900.- Human populations could regulate their own growth through contraception. Women's freedom was required for this, and desirable for its own sake. Poverty was explained by social inequality. "Conscious procreation" was needed to prevent low wages and pressure on natural resources. This was a successful bottom-up movement in Europe and America against States (which wanted more soldiers) and Churches.

NEO-MALTHUSIANISM AFTER 1970.- A doctrine and practice sponsored by international organizations and some governments. Population growth is seen as a main cause of poverty and environmental degradation. Therefore States must introduce contraceptive methods, even without women's prior consent.

ANTI-MALTHUSIANISM.- The view that assumes that human population growth is no major threat to the natural environment, and that it is even conducive to economic growth as Esther Boserup and other economists have argued

Sustainable de-growth

A transition to sustainability requires new thinking on demography and on the socio-ecological transitions. Marina Fischer-Kowalski and Helmut Haberl of the IFF in Vienna, influenced by the work of environmental historian Rolf Peter Sieferle and by ecological anthropologists, ecological economists, and industrial ecologists, recently edited a book entitled "Socio-Ecological Transitions". From hunter-gatherer societies to agricultural societies to industrial societies, the authors of this book uncover quantifiable patterns of use of energy and materials, population densities, land use and working time. They try also to distinguish possible from impossible futures. For instance, is it plausible to think of a world of nine billion people with an energy expenditure of 300 GJ and a use of materials of 16 tons per capita/year? Are we on the contrary on the verge of a socio-ecological transition that will reduce energy and material use in the rich economies even if this implies economic de-growth?

The transition needs a reform of financial institutions. The

imaginative selling of derivatives (financial "products"), and the existence of unregulated offshore banking, have taken a knock in public opinion. Sensible proposals are made by moderate political forces to turn banking into a public service. Beyond this, the crisis provides an opportunity for thinking about the *real-real* economy. Taxes at origin on the extraction of resources to finance an environmentally sustainable society should be introduced. There is need to reduce energy consumption and the use of materials by rich people. Frivolous calls in OECD countries for population growth in order to increase employment that will help pay for old age pensions, are not at all convincing from an ecological point of view, or even from a purely financial point of view as rates of unemployment increase. This is an opportunity for starting a socio-ecological transition. In the rich countries, we should move towards Socially Sustainable Economic Degrowth.

In some countries, not only the absolute amount of materials but also material intensity (tons of materials / GDP) has been increasing indicating more pressures on the environment. Convergence to a European average of 16 tons per person/year (only materials, water not counted here) would multiply Material Flows in the world by three, with the present population. Economies can be characterized by such Material Flows. We may analyze patterns of external trade. While South America exports six times as many tons as it exports, the European Union imports four times as many tons as it exports. We can understand characteristic patterns of social conflicts, for instance mining and oil extraction conflicts, or resistance against tree plantations for paper pulp or agro-fuels, or the international conflict caused by unequal access to the carbon dioxide sinks (oceans) or the temporary "reservoir" (atmosphere). Convergence towards 300 Gigajoules per capita/year in a European pattern would mean to multiply by 5 the present energy in the world economy. If gas and especially coal are used, this would also multiply by 4 or 5 the carbon dioxide produced. The HANPP is also increasing – human appropriation of net primary production of biomass. Population growth, soil sealing, meat eating, paper production, and agro-fuels increase the HANPP. The higher the HANPP, the less biomass available for other species.

The feminist movement made clear many decades ago that GDP does not value what is not in the market, like unpaid domestic work and voluntary work. A society rich in "relational goods and services" would have a lower GDP





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than an (impossible) society where personal relations would be exclusively mediated by the market. The Sustainable Degrowth movement insists on the non-chrematistic value of local, reciprocal services. Moreover, economists (or rather, psychologists) now agree that above a certain threshold GDP growth does not lead necessarily to greater happiness. This research updates the literature on the so-called Easterlin Paradox. Therefore, GDP should no longer have the dominant position in politics that now has, to the detriment of environmental and social considerations.

At first sight, Southern countries have something to lose and little to gain from Degrowth in the North because of fewer opportunities for commodity and manufactured exports, and less availability of credits and donations. But, the movements for Environmental Justice and the “environmentalism of the poor” of the South are the main allies of the Sustainable Degrowth movement of the North. These movements complain against disproportionate pollution (at local and global levels, including claims for repayment of the “carbon debt”), they complain against waste exports from North to South (e.g. the “Clemenceau” and so many other ships to the wrecking beaches of Alang in Gujarat, or electronic waste), they complain against biopiracy, and also against *Raubwirtschaft*, i.e. ecologically unequal exchange, and the destruction of nature and human livelihoods at the “commodity frontiers”. They also complain against the socio-environmental liabilities of Transnational Companies.

The world conservation movement should criticize conventional economic accounting and push for the introduction of an economic language that reflects better our relations with nature, while not forgetting the legitimacy of other languages: territorial rights, environmental and social justice, livelihood, sacredness. This is needed for the alliance between the conservation movement and the environmentalism of the poor, as proposed in the IUCN booklet, *Transition to Sustainability*,

by Bill Adams and Sally Jeanrenaud, published in 2008. This alliance is difficult because, to judge from the visibility of sponsorship at the WCC in Barcelona in October 2008, the world conservation movement has sold its soul to companies like Shell and Rio Tinto. John Muir would have been horrified.

The “environmentalism of the poor” combines livelihood, social, economic and environmental issues, with a strong emphasis on issues of extraction and pollution. In many instances these movement draw on a sense of local identity (indigenous rights and values such as the sacredness of the land). Adams and Jeanrenaud rightly notice that such movements are of the left insofar as they tend to position themselves in opposition to corporate power, and often to the coercive forces of the state – indeed they often explicitly oppose annexation of land, forests, mineral resources and water by governments or business corporations. There should be a confluence among conservationists concerned with the loss of biodiversity, the many people concerned with climate change who push for solar energy, the socialists and trade unionists who want more economic justice in the world, urban squatters who preach “autonomy”, agro-ecologists, neo-rurals, and the large peasant movements, the pessimists (or realists) on the risks and uncertainties of technical change (post-normal science), and the “environmentalism of the poor” that demands the preservation of the environment for livelihood. These international environmental justice movements have a clear objective: to have an economy that sustainably fulfils the food, health, education and housing needs for everybody and provides as much *joie de vivre* as possible. They know in their bones and in their brains that conventional economic accounting is false, that it forgets the physical and biological aspects of the economy, the value of unpaid domestic and voluntary work, and it does not really measure the welfare and happiness of the population. What is needed is an Aristotelian *buen vivir* (as the World Social Forum proclaims) guided by oikonomia rather than chrematistics.



UNITED NATIONS ENVIRONMENT PROGRAMME
ECONOMICS AND TRADE BRANCH

towards a
green
economy

A Global Green New Deal

A report prepared for the Economics and Trade Branch, Division of Technology, Industry and Economics, United Nations Environment Programme.

See the report at <http://www.ecoeco.org/pdf/GGND-ES.pdf>





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Big Idea: A Steady State Economy by Herman Daly

The earth as a whole is approximately in a steady state. Neither the surface nor the mass of the earth is growing or shrinking; the inflow of radiant energy to the Earth is equal to the outflow (the greenhouse effect has slowed the outflow, but the resulting temperature increase will force it back up); and material imports from space are roughly equal to exports (both negligible). None of this means that the earth is static – a great deal of qualitative change can happen inside a steady state, and certainly has happened on Earth. The most important change in recent times has been the enormous growth of one subsystem of the Earth, namely the economy, relative to the total system, the ecosphere. This huge shift from an “empty” to a “full” world is truly “something new under the sun,” as historian J. R. McNeil calls it in his book of that title. The closer the economy approaches the scale of the whole Earth, the more it will have to conform to the physical behavior mode of the Earth. That behavior mode is a steady state – a system that permits qualitative development but not aggregate quantitative growth. Growth is more of the same stuff; development is the same amount of better stuff (or at least different stuff). The remaining natural world is no longer able to provide the sources and sinks for the metabolic throughput necessary to sustain the existing oversized economy – much less a growing one. Economists have focused too much on the economy’s circulatory system and have neglected to study its digestive tract. Throughput growth means pushing more of the same food through an ever larger digestive tract; development means eating better food and digesting it more thoroughly. Clearly the economy must conform to the rules of a steady state – seek qualitative development, but stop aggregate quantitative growth. GDP increase conflates these two very different things.

We have lived for 200 years in a growth economy. That makes it hard to imagine what a steady-state economy (SSE) would be like, even though for most of our history mankind has lived in an economy in which annual growth has been negligible. Some think an SSE would mean freezing in the dark under communist tyranny. Some say that huge improvements in technology (energy efficiency, recycling) are so easy that it will make the adjustment both profitable and fun.

Regardless of whether it will be hard or easy, we have to

attempt an SSE because we cannot continue growing, and in fact so-called “economic” growth already has become uneconomic. The growth economy is failing. In other words, the quantitative expansion of the economic subsystem increases environmental and social costs faster than production benefits, making us poorer not richer, at least in high-consumption countries. Given the laws of diminishing marginal utility and increasing marginal costs, this should not have been unexpected. And even new technology sometimes makes it worse. For example, tetraethyl lead provided the benefit of reducing engine knock, but at the cost spreading a toxic heavy metal into the biosphere; chlorofluorocarbons gave us the benefit of a nontoxic propellant and refrigerant, but at the cost of creating a hole in the ozone layer and a resulting increase in ultraviolet radiation. It is hard to know for sure that growth now increases costs faster than benefits since we do not bother to separate costs from benefits in our national accounts. Instead we lump them together as “activity” in the calculation of GDP.

Ecological economists have offered empirical evidence that growth is already uneconomic in high-consumption countries. Since neoclassical economists are unable to demonstrate that growth, either in throughput or GDP, is currently making us better off rather than worse off, it is blind arrogance on their part to continue preaching aggregate growth as the solution to our problems. Yes, most of our problems (poverty, unemployment, environmental degradation) would be easier to solve if we were richer – that is not the issue. The issue is: Does growth in GDP any longer really make us richer? Or is it now making us poorer?

For poor countries GDP growth still increases welfare, at least if reasonably distributed. The question is, what is the best thing for rich countries to do to help poor countries? The World Bank’s answer is that the rich should continue to grow as rapidly as possible to provide markets for the poor and to accumulate capital to invest in poor countries. The steady state answer is that the rich should reduce their throughput growth to free up resources and ecological space for use by the poor, while focusing their domestic efforts on development, technical and social improvements that can be freely shared with poor countries.





Daly (continued from Page 18)

International capital mobility, coupled with free trade, allows corporations to escape from national regulation in the public interest, playing one nation off against another. Since there is no global government they are, in effect, uncontrolled. The nearest thing we have to a global government (IMF-WB-WTO) has shown no interest in regulating transnational capital for the common good. Their goal is to help these corporations grow, because growth is presumed good for all—end of story. If the IMF wanted to limit international capital mobility to keep the world safe for comparative advantage, there are several things they could do. They could promote minimum residence times for foreign investment to limit capital flight and speculation and they could propose a small tax on all foreign exchange transactions (Tobin tax). Most of all they could revive Keynes' proposal for an international multilateral clearing union that would directly penalize persistent imbalances in current account (both deficit and surplus), and thereby indirectly promote balance in the compensating capital account, reducing international capital movements.

Taxing what we want less of (depletion and pollution), and ceasing to tax what we want more of (income, value added) would seem reasonable – as the bumper sticker puts it, “tax bads, not goods.” The shift could be revenue-neutral and gradual. Begin for example by forgoing \$x revenue from the worst income tax we have. Simultaneously collect \$x from the best resource severance tax we could devise. Next period get rid of the second-worst income tax and substitute the second-best resource tax, etc. Such a policy would raise resource prices and induce efficiency in resource use.

Knowledge, unlike throughput, is not divided in the sharing, but multiplied. Once knowledge exists, the opportunity cost of sharing it is zero and its allocative price should be zero. International development aid should more and more take the form of freely and actively shared knowledge, along with small grants, and less and less the form of large interest bearing loans. Sharing knowledge costs little; does not create unrepayable debts, and it increases the productivity of the truly rival and scarce factors of production. Existing knowledge is the most important input to the production of new knowledge, and keeping it artificially scarce and expensive is perverse. Patent monopolies (aka “intellectual property rights”) should be given for fewer “inventions,” and for fewer years.

Could an SSE support the enormous superstructure of finance built around future growth expectations? Probably not, since interest rates and growth rates would be low.

Investment would be mainly for replacement and qualitative improvement. There would likely be a healthy shrinkage of the enormous pyramid of debt that is precariously balanced atop the real economy, threatening to crash. Additionally, the SSE could benefit from a move away from our fractional-reserve banking system toward 100 percent reserve requirements.

One-hundred-percent reserves would put our money supply back under the control of the government rather than the private banking sector. Money would be a true public utility, rather than the by-product of commercial lending and borrowing in pursuit of growth. Under the existing fractional reserve system, the money supply expands during a boom and contracts during a slump, reinforcing the cyclical tendency of the economy. The profit (seigniorage) from creating (at negligible cost) and being the first to spend new money – and receive its full exchange value – would accrue to the public rather than the private sector. The reserve requirement, something the Central Bank manipulates anyway, could be raised from current very low levels gradually to 100 percent. Commercial banks would make their income by financial intermediation (lending savers' money for them) as well as by service charges on checking accounts rather than by lending at interest money they create out of nothing. Lending only money that has actually been saved by someone re-establishes the classical balance between abstinence and investment. This extra discipline in lending and borrowing likely would prevent such debacles as the current “sub-prime mortgage” crisis. 100 percent reserves would both stabilize the economy and slow down the Ponzilike credit leveraging.

While these transitional policies will appear radical to many, it is worth remembering that, in addition to being amenable to gradual application, they are based on the conservative institutions of private property and decentralized market allocation. They simply recognize that private property loses its legitimacy if too unequally distributed, and that markets lose their legitimacy if prices do not tell the whole truth about costs. In addition, the macro-economy becomes an absurdity if its scale is structurally required to grow beyond the biophysical limits of the Earth. And well before that radical physical limit, we are encountering the conservative economic limit in which extra costs of growth become greater than the extra benefits.

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ISEE Forum on Ecological Economics and the Current Global Economic Crisis

Back Away from the Tipping Point

by Herman Daly (Continued from Page 19)

Ten crucial steps to attain an ecologically viable economic future

1. **Cap-auction-trade systems for basic resources** – Cap limits to biophysical scale according to source or sink constraint, whichever is more stringent. Auction captures scarcity rents for equitable redistribution. Trade allows efficient allocation to highest uses.
2. **Ecological tax reform** – Shift tax base from value added (labor and capital) and on to “that to which value is added,” namely the entropic throughput of resources extracted from nature (depletion), through the economy, and back to nature (pollution). Internalizes external costs as well as raises revenue more equitably. Prices the scarce but previously unpriced contribution of nature.
3. **Limit the range of inequality in income distribution** – A minimum income and a maximum income. Without aggregate growth, poverty reduction requires redistribution. Complete equality is unfair; unlimited inequality is unfair. Seek fair limits to inequality.
4. **Free up the length of the working day, week and year** – Allow greater option for leisure or personal work. Full-time external employment for all is hard to provide without growth.
5. **Re-regulate international commerce** – Move away from free trade, free capital mobility and globalization; adopt compensating tariffs to protect efficient national policies of cost internalization from standards-lowering competition from other countries.

6. **Downgrade the IMF-WB-WTO** to something like Keynes’ plan for a multilateral payments clearing union, charging penalty rates on surplus as well as deficit balances – seek balance on current account, avoid large capital transfers and foreign debts.

7. **Move to 100 percent reserve requirements** instead of fractional-reserve banking. Put control of money supply and seigniorage in hands of the government rather than private banks.

8. **Enclose the remaining commons of rival natural capital in public trusts, and price it**, while freeing from private enclosure and prices the non-rival commonwealth of knowledge and information. Stop treating the scarce as if it were non-scarce, and the non-scarce as if it were scarce.

9. **Stabilize population** – Work toward a balance in which births plus in-migrants equals deaths plus out-migrants.

10. **Reform national accounts** – Separate GDP into a cost account and a benefits account. Compare them at the margin, stop growing when marginal costs equal marginal benefits. Never add the two accounts.

This article is adapted from Towards a Steady-State Economy, a paper Herman Daly wrote for the UK Sustainable Development Commission in 2008. The complete text can be found at www.theoildrum.com.

It is reprinted here with permission...ISEE





Dilemmas of the Financial Crisis in “Green Developing Nations”: The Case of Costa Rica

Freddy Pacheco-León, PhD* Profesor Universidad Nacional, Costa Rica

In the month of June, 1992, as part of the preparation phases of the official document that would express the position of Costa Rica in "The United Nations Conference on the Environment and Development" in Rio de Janeiro, something interesting happened in the Ministry of Foreign Affairs of Costa Rica, (otherwise known as the “Yellow House Building”). In a meeting of professionals concerned with environmental problems we were discussing the base document, prepared by a consultant non-governmental organization, which clearly had its focus on the ECONOMY over the ENVIRONMENT, as the predominant factor of development. The end result then was that in Costa Rica, almost by decree, proper environmental equilibrium became subordinated to economic proposals, according to the dogmatic models still in fashion then.

As a reaction, complaints from those who believed that this order of priorities was wrong started. Local and regional environmental characteristics should be the basis to plan the development. We did not accept the argument “economic progress” at the expense of a very high energy cost.

Likewise, we questioned why the "Conservation Strategy for the Sustainable Development of Costa Rica" (ECODES), published in 1990 after a participation of more than a hundred scientists, diverse professionals and conservationist organizations (national and international), had been disdained by the government at this time in the process toward Rio de Janeiro. The updated framework of reference was left undone. This framework was expected to guide a model of social and economic development based on the sustainable use of natural resources.

By then and facing a planetary environmental emergency that justified President’s Summit in Brazil, the confrontation between ecology versus economy was crucial on the debate. This discussion acquired greater importance in Costa Rica in light of the coming Conference of the UN. At this time a copy of the June issue of the Scientific American magazine was circulating containing an article named “Deforestation in the Tropics” by Robert Repetto. In this article Costa Rica was shown like a place where destruction was labeled as development, thanks to a "model" based on deforestation, habitat fragmentation and predatory, out of control fishing.

Today in 2009, not only has a lot of water gone under the bridge but this water is more loaded with sediments, toxic substances and other contaminants. The goals of Río 92, as it was ratified in South Africa in 2002, are very far from being

complied with in Costa Rica. A poorly conceived model of development like the one we currently have, as much as the “underdevelopment” of past decades, is a threat against environmental equilibrium. This is so because of its insatiable use of resources in the generation of financial profits and the resulting poverty and social marginalization: two divergent worlds that paradoxically live together in the same planet which cannot bear more abuse.

We come to 2009, characterized by its global financial crisis, born out of the irresponsibility of the speculators in Wall Street, invading uncontrollably all countries of all continents. This should be motive of great concern, not only for the almost “always wrong” economists, but also for all those that aspire to a better world, by building a prosperous and habitable home in our planet. We can’t ignore the threats that face the environment in moments of financial crisis. The false dichotomy of economic growth or environmental conservation will surely be used again by those that espouse economic orthodoxy. When facing this dilemma, we will need to reaffirm the existing environmental conservation policies in order to look for roads of economic recovery that will have minimal effects on the environment.

Proposals of petroleum exploitation in environmentally fragile areas, the support to the open pit mining, the destruction of forest relics to make space for social and environmental high-risk monocultures, the imposition of the “laws of the market” in devastating fishing activities, the flexibility in the use of dangerous agrochemicals, the contradictory verdicts of the Constitutional Court, the cross-border commerce of bottled water, the tendency to privatize the administration of conservation areas, the emission without control of greenhouse gases, the “business” behind the construction of dams that would flood hundreds of hectares under conservation with the excuse of supplying drinking water and controlling floods as in the case of the disastrous project "La Cueva" in the province of Guanacaste, are only some of the warning signs linked to the times of financial crisis, that is to say, to the times of desperation where anything goes in order to surpass the economic failure. Here, again, the economy may reign over the environment.

* Originally published in Spanish on January 10, 2009 in “La Prensa Libre” (The Free Press), one of the main Costa Rican newspapers under the title “Ambiente y Crisis Financiera”. Freddy Pacheco-León is not only a scholar but also one of the leading voices in new environmental activism in Costa Rica. Translated by Ligia Umaña-Ledezma.





ISEE NEWS

ISEE ANNOUNCES ITS 11th BIENNIAL CONFERENCE: “ADVANCING SUSTAINABILITY IN A TIME OF CRISES” TO TAKE PLACE IN OLDENBURG AND BREMEN, GERMANY

The 11th Biennial ISEE Conference, 2010 will take place from 22 - 25 August, 2010 with the theme: “Advancing Sustainability in a Time of Crises”. The conference will take place in the two adjacent cities of Bremen and Oldenburg. The city of Oldenburg is the economic, administrative and cultural centre of the Weser-Ems region in north-western Germany.

Approximately 160,000 inhabitants enjoy living in a dynamic, culturally-rich and prospering city. Oldenburg offers a picturesque old town centre. Here one can find the castle, the Old Town Hall and small streets and alleys that invite you to discover more. The old town is free of motor traffic and several parks invite visitors and citizens to lush walks. The city is not far from the North Sea coast. Oldenburg is the ideal starting point to access the Wadden Sea National Park which only a short trip from Oldenburg.

Visits to this unique landscape and natural habitat give tourists an impression of the important role the North Sea plays in the region. On the other hand, Bremen, a city, as well as Germany’s smallest state, offers a long maritime history. Trade, logistics and shipbuilding industry are cornerstones of Bremen’s history. With a population of almost 550 000, Bremen is the largest city in northwestern Germany. Situated along the river Weser, the city has a list of must-see sights. The old town with its 13th century cathedral, medieval quarters, the Renaissance town hall and the statue of the city’s protector Roland is popular among tourists from all over the world. Apart from its rich history, Bremen is a modern port city with major companies in the shipbuilding, aviation and space industry.

Universities, colleges and research institutes contribute to the modern spirit of Bremen.

The conference will be hosted at the University of Oldenburg and University of Bremen. Both universities have a strong record in ecological economic research and teaching and are centers of interdisciplinary environmental and sustainability research with a strong focus on social science and economic dimensions of the problem. A preliminary set of themes based on research topics addressed by teams in Oldenburg and Bremen includes the following:

- Climate change and adaptation to climate change
- Biodiversity and ecosystem services
- Governance
- Knowledge and social learning for societal change
- Dematerialization and de-growth
- Business strategies for sustainable management
- Land use patterns
- Coastal zone management
- (Renewable) energy and sustainable energy systems
- Sustainability science and transdisciplinary research designs
- Evolutionary economics
- Institutional economics
- Postautistic economics

Coming Soon:

Follow updates on the ISEE Conference and other ISEE news on Facebook, LinkedIn and Twitter.





ISEE ANNOUNCES ITS 11th BIENNIAL CONFERENCE (continued from Page 20)

The executive committee is expected to take all central decisions concerning the call for papers, the venues, the review process, the keynote speakers, the organization of sessions, and other organizational details in coordination with the local organizing teams in Oldenburg and Bremen.

Proposed Members are:

Professor Klaus Eisenack (Oldenburg University)

Dr. Katherine Farrell (Aarhus University)

Professor Michael Flitner (Bremen University)

Professor John Gowdy (Rennselear Polytechnic Institute, ISEE President elect)

Dr. Pushpam Kumar (University of Liverpool)

Professor Peter May (ISEE President, Federal Rural University of Rio de Janeiro)

Dr. Felix Rauschmeyer, (Helmholtz Centre for Environmental Research Leipzig)

Professor Inge Røpke (Technical University of Denmark)

Professor Bernd Siebenhüner (Oldenburg University).

The organizing team is responsible for the organizational details, in particular rooms, accommodation, transportation, catering, and alike. There will be local

organizing teams in Oldenburg and Bremen to prepare the particular events at the particular locations. The teams will be supported by a larger number of student volunteers at both conference venues.

It will be the main task of the scientific committee to serve as reviewers in the selection process of paper and poster submissions. The online tool owned by ISEE will be used for the review process. Around 100 ecological economists from around the world will be summoned for this purpose.

Also the organization of the Conference will count with the partnership of the European Society for Ecological Economics (ESEE), Vereinigung für ökologische Wirtschaftsforschung (German Association for Ecological-Economic Research, VÖW), Vereinigung für Ökologische Ökonomie (German Association for Ecological Economics, VÖÖ), International Human Dimensions Programme on Global Environmental Change (IHDP), among others.

PETER MAY, ISEE PRESIDENT, INVITED TO CHAIR IUCN THEME COMMISSION

Dr. Peter May has been invited to serve as a Co-Chair of the **IUCN Theme on the Environment, Macroeconomics, Trade & Investment for the Commission on Environmental, Economic & Social Policy** jointly with Pavan Sukhdev and Alejandro Nadal.

The IUCN Commission on Environmental, Economic & Social Policy (CEESP) is an inter-disciplinary network of over 1000 professionals whose mission is to act as a source of advice on the environmental, economic, social and cultural factors that affect natural resources and biological diversity and to provide guidance and support

toward effective policies and practices in environmental conservation and sustainable development. All members of CEESP are volunteers.





ISEE MEMBER NEWS

Renewal for 2009 began on October 1, 2008.

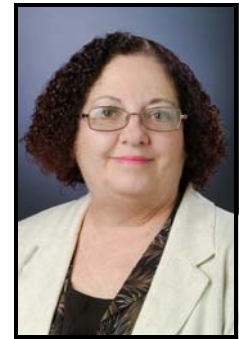
If you renew between October 1 and December 31, 2008 your membership will be effective through December 31, 2009 unless you choose the 3 year renewal option. Be sure to verify your information such as your email address, phone, fax and address. If you subscribe to the paper version of the journal it is very important that we have your current mailing address.

Starting this year you can also add a secondary email address. It will only be used by the ISEE in the event that a message to your primary email address is returned. It is for administrative use only and will not be published in the member search area.

You should also note that renewals should be completed for 2009 by March 31, 2009. Subscriptions to the Journal will cease and entrance to the member's only area of the website will be blocked as of April 1, 2009 if members do not renew in time.

You now have several options for dues remittance: credit card, by mail (check, bank check or money order), or wire either to an ISEE account or by Western Union. Funds must be in US\$

If you have been a member in the past but cannot login to reinstate your membership please contact secretariat@ecoeco.org



Marsha Kopan
ISEE Secretariat

STUDENT VOICES

A Students' Perspective on Building Knowledge for Sustainability Tischa A. Muñoz-Erickson and Thaddeus R. Miller
PhD Students in the School of Sustainability, Arizona State University

In the fall of 2007, we joined twenty eight other students as the first class of the School of Sustainability (SOS) at Arizona State University. As one of the nation's first schools to offer degrees in Sustainability, we knew that we were embarking on an experiment. Our previous training in environmental science and policy, as well as exposure with transdisciplinary fields like ecological economics, has prepared us for the problems and opportunities in the integration of natural and social sciences. Building knowledge for sustainability, however, demands this and much more. SOS has brought in students and faculty from completely different fields, such as anthropology, ecology, economics, engineering, geography, geology, and the humanities, to engage with each other and sustainability. Furthermore, there is a recognition that sustainability often involves dealing with 'wicked' problems, where solutions are not obvious and trade-offs are the norm. This unique blend of personnel and approach to sustainability has a profound effect on the way we do interdisciplinary and problem-based education. As we, students and future scholars in the field, attempt to build knowledge for sustainability that will contribute to solutions for society's problems, we face what we see as three key questions: *How do we become agents of change, while working in the context of academic institutional constraints? How do aca-*

dem ic institutions balance the production of more stable, disciplinary knowledge with innovative knowledge for sustainability? How do programs like SOS develop and maintain an identity while adapting to an evolving societal discourse around sustainability?

While we do not intend to answer these grand questions, our unique experience in this new program puts us in a position to reflect on individual and organizational strategies that could facilitate a more adaptive learning process for sustainability science. Why adaptive? We believe that the traditional linear model of science and society that informs our academic enterprise is not conducive to deal with the social changes that sustainability entails, and the way that these in turn influence what knowledge is necessary. It has been our experience that even programs doing interdisciplinary and problem-based research are still working on the basis of this model, and that, while still very valuable to the pursuit of knowledge, they are missing key conditions to build knowledge for sustainability: reflexivity and epistemological pluralism. Reflexivity shatters the linear model by including society in the production of knowledge to the point where such involvement may fundamentally alter the type of and ways in which knowledge is produced. Science shapes and is shaped by society. A





Tischa A. Muñoz-Erickson and Thaddeus R. Miller (Continued from Page 20)

prerequisite for this interaction is epistemological pluralism. In short, epistemological pluralism acknowledges the validity of multiple ways of knowing. In order for the various fields mentioned above to accommodate one another and society, this must be a starting point for a functional research endeavor. Academic institutions must recognize that our success in this new field will not only be on the basis of our expertise, but on building the necessary skills to instill reflexivity and epistemological pluralism into the sustainability knowledge endeavor.

The School of Sustainability has some unique advantages that facilitate this experimentation. Rather than being a research center that seeks to bring disparate disciplines together, SOS is a free standing school with substantial support from the university administration and a blank slate for faculty and students from various disciplinary backgrounds to work with. Not only does SOS have a smorgasbord of fields to choose from, it is also comprised of students who have diverse career goals. Therefore, in addition to training students in several fields of studies and equipping them with the necessary collaborative and

synthetic skills, SOS must also train students for industry, government, business, academia and nonprofit careers. We are working with the faculty and students to develop strategies that will build this diverse skill set in our students and help the school to remain adaptive to changing societal conditions rather than become entrenched in a disciplinary or single issue-based way of approaching sustainability.

To us, sustainability education will be successful if we can serve as effective boundary spanners between the scientific and policy arena, while synthesizing and creating new knowledge for sustainability. This places a greater demand on the sustainability student as we still need to bring rigorous analytical thinking; yet it is our responsibility to make these other crucial aspects part of our new educational culture in sustainability. At the School of Sustainability we still have a long way to go to make sustainability education part of the norm rather than the exception, but we have taken the first big step: a commitment to experiment and learn.

FYI — RELATED WEBSITES OF INTEREST



European Association of Environmental and Resource Economists
www.eaere.org



Ecological Society of America
esa.org



Center for the Advancement of the Steady State Economy
www.steadystate.org



American Fisheries Society
www.fisheries.org

Contact the ISEE at secretariat@ecoeco.org to have an organization listed in this section.





Regional News

ASAUEE

Argentina & Uruguay Society for Ecological Economics



www.gepama.com.ar

On December 10th, 2008 the ASAUEE elected the following members to serve as their board of directors:

Walter Alberto Pengue as President (Argentina)

Carlos Anido as Vice President (Uruguay)

Horacio Feinstein as Treasurer (Argentina)

Bibiana Lanzilotta as Vice Treasurer (Uruguay)

Emma Bonino as Secretary (Argentina)

Jorge Mattos as Vice Secretary (Uruguay)

The new authorities have been elected for the period December 10th, 2008 through December 10th, 2010.

ANZSEE

Australia-New Zealand Society for Ecological Economics



ANZSEE

www.anzsee.org

AUSTRALIAN NEW ZEALAND SOCIETY FOR ECOLOGICAL ECONOMICS (ANZSEE) is pleased to present the latest edition

of its newsletter. You can find the newsletter at: www.anzsee.org

CANSEE 2009 Conference

Ecological Economics: Prosperity for a Sustainable Society

October 15-17, 2009

Simon Fraser University (Harbour Centre); Vancouver, British Columbia

The 8th Biennial Conference of the Canadian Society for Ecological Economics (CANSEE) will explore how ecological economics can build prosperity for a sustainable society. This conference will illustrate the importance of a transdisciplinary approach. Ecological economics employs a holistic vision for human progress in which the limits compelled by ecosystem carrying capacity as well as vital common societal values are taken into account. Through application to local, regional and global issues, new paradigms and tools emerging from research in, and practice of, ecological economics will be presented and will illustrate the contribution this approach can make in forging genuine solutions for moving towards a sustainable society.

Prominent among the themes to be developed at the conference will be exploring policy options for reducing our

adverse impact on the global climate. What can we expect from carbon taxes, from carbon trading under cap-and-trade schemes, from mandatory product standards and from regional and international agreement initiatives? Related issues, such as innovative and sustainable ways to address the emerging energy crisis and food supply and security issues will also be looked at, as well as several other interrelated themes.

The big question in common is: How do we make progress in developing equilibrium between human and ecosystem needs, and between the needs of individuals and those of the communities in which they live?

For more information visit: www.cansee.org





Regional News (Continued from Page 24)

ECOECO Brazil 2009 Conference 8th Meeting of the Brazilian Society for Ecological Economics (ECOECO) "applying Ecological Economics for a Sustainable Development"

www.ecoeco.org.br



The conference will be held in Cuiabá, Mato Grosso, Brazil, from **5- 7 August, 2009**. The meeting will cover the following topics:

Public Policies for the Development of the Amazonia

Economic Instruments for Biodiversity Conservation

Agriculture and the Environment (bio-fuels, growth of commodity and agro-ecological alternatives)

Environmental Valuation

Economic Theory and the Environment

Public Policies for Sustainable Development
Instruments for Environmental Management and Policies for Sustainable Development
Climate Change, International Relations and the Environment, among others.

Please submit the full paper in English and author information (full name, affiliation, address, telephone and fax number, e-mail address of author/s) by **May 18, 2009**. For more information visit <http://www.ecoeco.org.br>

ESEE 2009 Conference TRANSFORMATION, INNOVATION AND ADAPTATION FOR SUSTAINABILITY – INTEGRATING NATURAL AND SOCIAL SCIENCES

8th International Conference of the European Society for Ecological Economics
University of Ljubljana, Slovenia 29 June to 2 July 2009

This conference offers the opportunity to engage into a critical evaluation of the present and future research agenda of Ecological Economics. Global environmental problems have risen to the top of the international political agenda and there is growing demand for analyses that help understanding inter-coupled social, technological and environmental systems and formulating urgent policy actions. The relevant systems are typically open, dynamic and often indeterminate in their behaviour. This introduces challenges concerning the quality of knowledge and the tools and methods suitable for understanding system changes. These problems are further compounded where governance interventions are framed differently under contending social values and interests and shaped by the exercise of cultural, political and economic power

Although it is generally accepted that natural and social systems are inter-coupled, both are mostly analyzed in

terms of purely internal disciplinary models. Social systems are often studied in isolation from the surrounding environment, whereas for natural systems it is common that a large number of interconnections and variables is analysed, while the role of humans is described by a single actor model seeing people mainly as creators of disturbances. Ecological economics approaches to these challenges seek to overcome the theoretical and methodological barriers. This requires developing strategies for understanding and engaging with the complexity, interdependence and co-evolutionary dynamics of socio-ecological systems.

The conference aims to contribute to a better understanding of societal and natural processes and their interaction by integrating various scientific methodologies and approaches – that is empirical work, modelling, governance and policy research or philosophical and methodological studies.

For more information visit: www.esee2009.si





Regional News (Continued from Page 25)

USSEE 2009 Conference SCIENCE AND POLICY FOR A SUSTAINABLE FUTURE



UNITED STATES SOCIETY
for ecological economics

www.ussee.org

The 5th bi-annual conference of the United States Society for Ecological Economics (USSEE) will be held in Washington DC from May 31st to June 3rd 2009. The conference theme is "Science and Policy for a Sustainable Future". This theme intends to move the debate from scientific discoveries and insights to practical solutions and viable policies. Conference participants will come from academia, the non-profit sector and the public sector with the goal of advancing collaborations between the private, public and non-profit sector to advance sustainability.

For more information visit: ussee.org/conference09/index.php



USSEE 2009 CONFERENCE
science and policy for a sustainable future

Other Conferences

The Iberoamerican Network of Ecological Economics (Red Iberoamericana de Economía Ecológica) announces the **IV Iberoamerican Conference on Development and the Environment "Building Alternative Models of Development"** will take place between the 7 and 10 of October, 2009 at Pontificia Universidad Javeriana in Bogotá, Colombia. More information (in Spanish) can be found at <http://www.idea.unal.edu.co/CisdalV/index.html>.

"Carbon Market and Flexible Mechanisms: Legal, Technical and Economic Issues" organized by Fondazione Eni Enrico Mattei (FEEM) at Milan, Italy on **March 13th, 2009**, for more information please visit <http://www.feem.it/NR/Feem/resources/conferences/2009/PRO2009-03-13-01.pdf>

Workshop "Back from the brink: rethinking financial regulation" organized by Fondazione Eni Enrico Mattei (FEEM) and Bocconi University at Milan, Italy on **March 27th, 2009**, for more information please visit <http://www.feem.it/NR/Feem/resources/conferences/2009/PRO2009-03-27-01.pdf>

More information at: http://www.ecoeco.org/conferences_nonisee.php

IV CONGRESS OF THE LATIN AMERICAN AND CARIBBEAN ASSOCIATION OF ENVIRONMENTAL AND RESOURCE ECONOMISTS hosted by the Universidad Nacional, Costa Rica, from **March 19th to 21st, 2009**.

If you want more information about the IV Congress ALEAR 2009 you can access our web page www.una.ac.cr/alear2009 or contact us at alear@una.ac.cr and we will be glad to help you.

2009 International Marine Conservation Congress

Organized by the Marine Section of the Society for Conservation Biology, **20-24 May, 2009** at George Mason University, close to Washington D.C.

International Student Energy Summit (ISES) From **June 11-13 of 2009**, ISES will bring together 500 post-secondary students from across the globe to Calgary, Alberta, Canada - one of the fastest growing energy centers in the world. Register as an ISES student delegate and you will have the opportunity to learn and network with industry experts and global thought leaders. Online early bird registration will begin on December 1, 2008 until February 28, 2009. If you register on these days your name will be entered into a draw for a chance to win back \$595 registration fee. For more information, please visit <http://www.studentenergy.org>





Other Conferences (continued from Page 26)

17th Annual Conference of the Association of Environmental and Resource Economists

from **24-27 June 2009**, Amsterdam, The Netherlands. For more information visit www.eaere2009.org

1st International Conference on Landscape Economics

Organized by the European Consortium for Landscape Economics, CEEP, from **2-4 July, 2009** at Vienna, Austria. The organisation committee invites all scholars working in the broad field of landscape economics:

Landscape economics – the Formation of a New Discipline

Landscape and Public Decision Making

Policy Instruments for Coordination and Landscape

Governance

Landscape Maintenance as an Economic Sector

Demand for and Supply of Landscape

Economic Activities as Driving Forces for Landscape

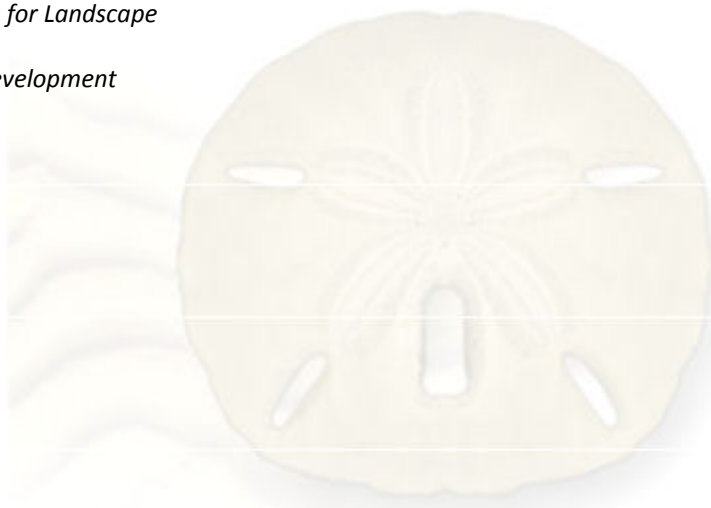
Development

Landscape as a Basis of Economic Development

This call for papers extends to all researchers working on the above topics, however, does not exclude other contributions in the context of landscape economics. Please submit the full paper in English and author information (full name, affiliation, address, telephone and fax number, e-mail address of author/s) by **March 2, 2009** to : julien.salanie@agrocampus-ouest.fr (with a copy to walid.oueslati@agrocampus-ouest.fr) For more information visit <http://www.ceep-europe.org/>

2009 International Congress for Conservation Biology

Organized by The Institute of Zoology, the Chinese Academy of Sciences and the Society for Conservation Biology (SCB), hosted by The Institute of Zoology, from **11-16 July, 2009** at Beijing, China. If you want more information please visit <http://scb2009.ioz.ac>.





Other News

THE MESOAMERICAN SOCIETY FOR ECOLOGICAL ECONOMICS-SOCIEDAD MESO-AMERICANA DE ECONOMÍA ECOLÓGICA (SMEE)

SMEE Announces its current board members:
 President: Iliana Monterroso - Guatemala
 Vicepresident: Marco Otoya - Costa Rica
 Treasurer: David Barkin - México
 Secretary: Mario Rodríguez - Guatemala
 Member at large: Eduardo García Frapolli - México
 Member at large: Geisselle Sánchez - Nicaragua
 Student representative: Marilú Peña - México

At the same time, it is pleased to present the first edition of its newsletter (in Spanish). You can find the newsletter at:
http://www.redibec.org/archivos/boletin1_SMEE.pdf

FUNDACION NEOTROPICA SEEKS TO BECOME "THE" NON GOVERNMENT ORGANIZATION LEADER IN ECOLOGICAL ECONOMICS IN THE NEOTROPICS



neotropica.codigosur.net

With the arrival of its new director, ISEE member, Bernardo Aguilar-González, Fundación Neotrópica, based out of Costa Rica, announced a commitment to the promotion and implementation of ecological economics and political ecology.

Being one of the oldest NGOs in Costa Rica's environmental sector, Fundación Neotrópica is known for its commitment to the promotion of sustainable management of natural resources through community empowerment. Founded in 1985, it was established by a group of Costa Ricans concerned with the national environmental situation, seeking to expand the analytical perspective and vision to address this situation with the participation of the civil society. They sought to find a balance between environmental conservation, economic development and social well being. It was henceforth that the Neotropica Foundation was created to help mediate the environmental conflicts that were intrinsic to seeking the sustainable management of managed ecosystems on which protected areas depend; to favor the migration of flora and fauna without lessening the possibility of mutual growth between human beings and their development. Two strategic mandates were established from the start and diligently continue today: field projects with communities to establish integral sustainable

development models and applied research that connects those communities with national policies and ecosystems. Twenty three years after being established, the organization has specialized in the praxis of the socio-environmental and economic development in buffer zones. It complies with its objectives through its programs which seek to address the challenges inherent to sustainability:

1. Sustainable Management of Natural Resources: Its focus is on the integral management of ecosystems, rational use of environmental services and resources, including agro-ecosystems. Actions are taken by local habitants through forest protection practices, regeneration, reforestation, diversification practices and the betterment of productive systems. (agriculture, tree plantations, cattle raising, and tourism.)
2. Communitarian Self-Management: Emphasizes on community development and the active and fair participation of its members. It focuses on managerial, administrative, technical and financial empowerment.

These two programs result in a set of topics of interest for the work and research of the Fundación Neotrópica:





Other News

FUNDACION NEOTROPICA (continued from Page 24)

- Ecological, environmental and natural resource Economics
- Sustainable use of resources, including biodiversity
- Collective action and public goods
- Environmental conflicts-political ecology
- Decision support systems and policy support tools
- Management of environmental risks
- Ecosystem conservation
- Environmental education
- Integral management of the forest resources
- Integral management of farms
- Agroforestry and silvopastoral systems

- Nutritional Security
- Communitarian self-management
- Rural Micro-businesses
- Rural Eco-tourism

Today, the foundation seeks to become a leader in promoting solutions that use the sister transdisciplines as a framework to confront the current socio-environmental crisis affecting neotropical socio-ecological systems in developing nations. In order to do this, it has strengthened its human resources and is working in networking with sister organizations in the field in order to attract funds to execute its mission.

ISEE Member News

DOCTOR ATE HONORIS CAUSA TO KOZO MAYUMI FROM THE WEST UNIVERSITY OF TIMISOARA.

On October 21, 2008, Kozo Mayumi, ISEE member, received a Doctorate Honoris Causa from the West University of Timisoara, Romania, for his work

in the field of economics. The ISEE congratulates Dr. Masumi for this honor.



UNFORTUNATE LOSS OF OUR ESTEEMED EUROPEAN COLLEAGUE CARL-ERIK SHULZ.

On 30 November 2008, **Carl-Erik Schulz** died. Climbing the Table Mountain (as he did many times before) ended in a fatal accident. Carl-Erik (born 26 August 1946 in Oslo) spent most of his professional career as an Associate Professor and Professor of

Economics at the University of Tromsø. Since 2006 he was Professor at the Norwegian University of Life Sciences. He was a gentle and calm person, always on the move to explore new frontiers while pursuing his political and social values and norms with soft but steadfast perseverance. For more on his memorial, visit <http://www.nai.uu.se/>





JOBS & APPOINTMENTS

Please send job openings to secretariat@ecoeco.org -- if appropriate, your ad will be posted quickly for all our visitors to read.

The following and more are described in detail in our website: <http://www.ecoeco.org/jobs.php>

Professor in Eco-Innovation: The Federation UniverSud Paris is looking for a Chair holder who will be responsible for the direction of a Masters level teaching programme (of about 25 students per year), for a doctoral programme (including supervision of selected doctoral students), and for initiating research in the management of eco-innovation.

Deadline from **now until 28 February 2009**. For more information visit <http://www.universud-paris.fr/fr/category/rubriques/chaire-eco-innov>

Rainforest Alliance Job Opportunity: Projects Manager (Latin America), Sustainable Agriculture Division. For more information visit http://www.rainforest-alliance.org/about.cfm?id=projects_manager

The Joint Research Centre of the European Commission is offering a position to work on the analyses of tradeoffs and trends in ecosystem services. Through case studies the candidate will develop approaches for the valuation of ecosystem services and how to link requirements for the conservation of living ecosystems and habitats with opportunities for economic development. Please find more details at the following link:

<http://ies.jrc.ec.europa.eu/call-for-granholders-post-doc> or <http://europa.eu/whoiswho/public/index.cfm?fuseaction=idea.hierarchy&lang=en&nodeid=3780>

Fellowship Opportunities that can be found in more detail in:

http://www.ecoeco.org/education_fellowships.php

**2009 Kinship Conservation Fellows
Bellingham, Washington**

Applications are now open for the 2009 Kinship

Conservation Fellows program located in Bellingham, Washington. Kinship is designed to equip select career conservationists with effective tools for solving environmental problems through market-based principles.

Fellowships offered by MIND, Sri Lanka, for graduate students working on sustainable development

The Munasinghe Institute for Development (MIND) offers fellowships and provides local facilities for graduate students in the sustainable development area.

Educational Opportunities. More info on this and other programs at: <http://www.ecoeco.org/education.php>

EAERE-FEEM-VIU European Summer School "Economics, Transport and Environment" 5-11 July, 2009 at Venice, Italy. For more information visit www.feem.it/ess

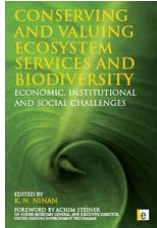
The advanced course on Ecological Economics **"Ecological Economics as an Analytical Proposal to the Environmental Crisis and Model of Development"** will take place at the Universidad Nacional de Colombia on October 5 and 6, 2009 as part of the **IV Iberoamerican Conference on Development and the Environment**. More information (in Spanish) can be found at <http://www.idea.unal.edu.co/CisdalV/index.html>.





Publications & Publishing Opportunities

CONSERVING AND VALUING ECOSYSTEM SERVICES AND BIODIVERSITY



By K. N. Ninan, published by Earthscan. This is the most comprehensive book to address the economic, social and institutional difficulties in conserving biodiversity and the ecosystem services that they provide. It covers a wide range of issues such as biodiversity, ecosystem services and valuation in

the context of diverse ecosystems such as tropical forests, marine areas, wetlands and agricultural landscapes, non-timber forest products, incentives and institutions, payments for ecosystem services, governance, intellectual property rights and the protection of traditional knowledge, management of protected areas, and climate change and biodiversity.

It also covers the application of environmental economics and institutional economics to different cases and the use of techniques such as contingent valuation method and game theory. The book spans the globe with case studies drawn from a cross section of regions and continents including the UK, US, Europe, Australia, India, Africa and South America

Affiliated with the ESEE, formerly “European Environment”, being re-launched in 2009:

Environmental Policy and Governance
Incorporating European Environment

Call for Papers, Review Articles and Special Issues

Aims and Scope

Environmental Policy and Governance is an international, inter-disciplinary journal affiliated with the European Society for Ecological Economics (ESEE). The journal seeks to advance interdisciplinary environmental research and its use to support novel solutions in environmental policy and governance. The journal publishes innovative, high quality articles which examine, or are relevant to, the environmental policies that are introduced by governments or the diverse forms of environmental governance that emerge in markets and civil society. The journal includes papers that examine how different forms of policy and governance emerge and exert influence at scales ranging from local to global and in diverse developmental and environmental contexts. The journal invites analyses that are at the forefront of academic debates and that are of practical signifi-

ECOLOGICAL ECONOMICS

Edited by Clive L. Spash

Series: Critical Concepts in the Environment

Publication Date: June 15, 2009

This new four-volume Routledge Major Work brings together canonical and cutting-edge research in Ecological Economics. In tracing both the development of thought in the field, as well as exploring the most recent scholarship, diverse elements of the rapidly expanding literature are brought together for the first time, providing an overview of—and vision for—Ecological Economics.

cance and policy relevance. Each volume includes review articles and guest-edited special issues on themes deemed to be of widespread interest and importance.

Environmental Policy and Governance is deliberately interdisciplinary, seeking to publish articles that build the understanding of environmental issues not only by drawing

ences, but also by linking the social and natural sciences. The journal accommodates and encourages methodological innovation and diversity in order to foster interdisciplinary, problem-oriented environmental research. All manuscripts and special issues are reviewed by an international panel of referees, with an aim of returning constructive comments on submitted manuscripts in a timely way. The editorial strategy and the review processes of *Environmental Policy and Governance* are guided by an active editorial board consisting of leading academics from different regions and disciplines.





Publications & Publishing Opportunities (continued from Page 32)

Call for Papers, Review Articles and Special Issues

The journal is currently inviting submissions of papers and proposals for review articles and special issues.

Paper submissions - The journal invites analyses that are at the forefront of academic debates and that are of practical significance and policy relevance. In particular, papers that draw on, and contribute to the further development of, disciplines such as international relations, politics, law, economics, sociology, management, geography, development studies and science and technology studies are welcome, as are those that integrate the environmental sciences into contemporary debates on policy and governance. It particularly welcomes policy relevant contributions from the field of ecological economics. All papers will be double-blind refereed to the highest standards by the international, inter-disciplinary editorial board. We aim to give constructive feedback to submitting authors and to move accepted papers towards publication as quickly and efficiently as possible.

Review articles - The journal invites review articles that summarise the state of the debate and examine critical

issues, future trends and pressing research needs in key areas of environmental policy and governance. Review articles can examine different disciplinary perspectives, concepts and frameworks, geographical experiences or thematic issues in environmental policy and governance. Four review articles will be published in each volume of the journal. Proposals should be submitted to the editors for review and comment prior to the preparation of the review article.

Special issues - The journal invites the submission of proposals for special issues on key themes and critical issues in environmental policy and governance. Proposals should be around 1500 words in length, setting out the rationale for the special issue and the key themes that will be addressed and presenting abstracts of the papers to be included. Special issues should include an editorial review of around 3,000 words and 5 or 6 papers of up-to 8,000 words each..

More info can be found at www.interscience.wiley.com/journal/eet

New book on sustainability and expert collaboration

Cognitive Tools for Expert Collaboration in Social-Ecological Systems

By Janne Hukkinen

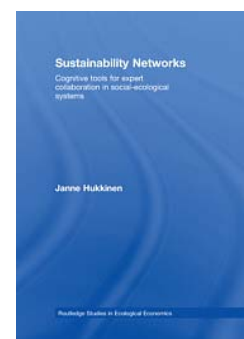
Sustainability is a word that means different things depending on who is using it, thus underlining the potential problems involved in experts from different fields teaming up to tackle sustainability problems. In this book, Janne Hukkinen argues for a reflexive approach to sustainability as a means of coming to grips with the threatening challenges arising from human–environment interaction. The author illustrates his argument with a case study of natural resource management in Lapland, showing how sustainability is understood holistically by academics and professionals alike.

Sustainability Networks book reflects an emerging cognitive turn in sustainability sciences, conceptualizing environmental challenges during action on our social and material environments, rather than in isolation. Hukkinen argues that this conceptual blending enables sustainability experts to hybridize themselves: to immerse themselves in the fields of other experts

and imagine the other's work – both prerequisites of trans-disciplinary knowledge integration. This book shows how sustainability experts can reveal their intellectual engagements when designing scenarios and indicators and presents a rigorous framework for organizing expert collaboration.

Students engaged in interdisciplinary approaches to environmental policy and management, sustainability strategy and science and technology studies will find this book extremely interesting.

Janne Hukkinen is Professor of Environmental Policy at the University of Helsinki. He is the author of Institutions in Environmental Management (1999) also published by Routledge.





Publications & Publishing Opportunities (continued from Page 33)

INTRODUCTION TO ECOLOGICAL ECONOMICS (E-BOOK)

From the Gund Institute for Ecological Economics

The first edition of Introduction to Ecological Economics, originally published in 1997 by St. Lucie Press, has recently been put up on the Encyclopedia of Earth. The book can be read by anyone on-line

[http://www.eoearth.org/article/An Introduction to Ecological Economics %28e-book%29](http://www.eoearth.org/article/An%20Introduction%20to%20Ecological%20Economics%20-%20book%29) .

We are now preparing to publish a second edition, but we want to make it a much more participatory affair, and I invite you to contribute to it.

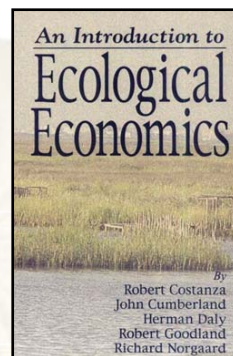
You can do so by editing and expanding the current chapters, adding a new chapter, or by writing new entries/informational boxes. When

Call for papers for a special issue of the **JOURNAL OF ENVIRONMENTAL PLANNING AND MANAGEMENT ON LANDSCAPE PLANNING AND VALUATION**. Deadline for paper submission is March 21, 2009, Expected Publication date: First semester of 2010. Contributions should be sent to the editors of this special issue: Professor Walid OUESLATI, E-mail: walid.oueslati@agrocampus-ouest.fr or Dr. Julien SALANIE, E-mail: julien.salanie@agrocampus-ouest.fr

MAJOR UPDATE OF THE NOEP NON-MARKET VALUATION WEBSITE:

NOEP has just made public our fully updated Non-Market Valuation website, which can be accessed at: www.oceanoeconomics.org (and click on Non-Market) or directly at: <http://noep.mbari.org/nonmarket/> Still the largest database in the world of studies documenting the

approved, your contribution will immediately become part of the online edition that is published in the Encyclopedia of Earth (EoE). At some point in the future, we will go through and choose among the revised and edited chapters from the online edition to publish a second edition print version. You will receive full attribution as a contributor to the book for the online and print editions. (more info [http://www.eoearth.org/article/An Introduction to Ecological Economics \(e-book\): How to Contribute](http://www.eoearth.org/article/An%20Introduction%20to%20Ecological%20Economics%20-%20book%29))



environmental and recreational values of ocean resources, the website now includes: 1) an updated methodologies section, 2) frequently asked questions, 3) examples of how Non-Market valuation influences public policy, and 4) an expanded table summarizing valuation estimates from across the United States. If you want to provide a link to our homepage on your website to help us further expand our audience and ensure that everyone involved in ocean conservation knows about this free open-access resource. And when you do so, we would also appreciate if you could please contact us at noep@mbari.org (if you have any comments or questions please use this email as well).





Publications & Publishing Opportunities (continued from Page 33)

REGIONAL ENVIRONMENTAL CHANGE (REC)

Environmental changes of many kinds are accelerating worldwide, posing significant challenges for humanity. Solutions are needed at the regional level, where physical features of the landscape, biological systems, and human institutions interact.

The goal of Regional Environmental Change is to publish scientific research and opinion papers that improve our understanding of the extent of these changes, their causes, their impacts on people, and the options for society to respond. "Regional" refers to the full range of scales between local and global, including regions defined by natural criteria, such as watersheds and ecosystems, and those defined by human activities, such as urban areas and their hinterlands.

We encourage submissions on interdisciplinary research across the natural sciences, social sciences and humanities, and on more focused studies that contribute towards the solutions to complex environmental problems. Topics addressed include (i) the regional manifestations of global change, especially the vulnerability of regions and sectors; (ii) the adaptation of social-ecological systems to environmental change in the context of sustainable development; and (iii) trans-boundary and cross-jurisdictional issues, legislative and governance frameworks, and the broad range of policy and management issues associated with building, maintaining and restoring robust social-ecological systems at regional scales.

The primary format of contributions are research articles, presenting new evidence from analyses of empirical data or else more theoretical investigations of regional environmental change. In addition to research articles, we also publish editorials, short communications, invited mini-reviews on topics of strong current interest, as well as special features that provide multifaceted discussion of complex topics or particular regions.

For more information, including past tables of contents, please consult the journal website <<http://www.springerlink.com/link.asp?id=103880>>

SOLUTIONS FOR A SUSTAINABLE AND DESIRABLE FUTURE

Published in a bi-monthly magazine format, with an interactive website, *Solutions* is the forum for an in-depth and far-reaching discussion of social goals and future visions. A hybrid academic journal/magazine, *Solutions* harnesses the innovations and creativity of our leading thinkers to provide policy makers, pioneering businessmen, educators, and informed members of the public with compelling articles that addresses such issues as the quality of life, ecological sustainability, social fairness, and economic efficiency. For further details, contact *Solutions* managing editor Ida Kubiszewski: ida.kub@thesolutionsjournal.com or at (802) 777-0077

SUSTAINABLE SOCIETY INDEX 2008: THE WORLD'S SUSTAINABILITY SCORES A MERE 5.7

The Sustainable Society Foundation has published its two-yearly update of the Sustainable Society Index, the SSI, which assesses the sustainability of 151 countries. The SSI combines the main aspects of Quality of Life and Sustainability, which are relevant for development towards sustainability. For more information and for a downloaded full publication visit www.sustainablesocietyindex.com





Publications & Publishing Opportunities (continued from Page 35)

New book on sustainability and expert collaboration SUSTAINABILITY NETWORKS: COGNITIVE TOOLS FOR EXPERT COLLABORATION IN SOCIAL-ECOLOGICAL SYSTEMS

By Janne Hukkinen

Published by Routledge. Sustainability is a word that means different things depending on who is using it, thus underlining the potential problems involved in experts from different fields teaming up to tackle sustainability problems. In this book, Janne Hukkinen argues for a reflexive approach to sustainability as a means of coming to grips with the threatening challenges arising out of human-environment interaction. The author illustrates his argument with a case study of natural resource management in Lapland, showing how sustainability is understood holistically by academics and professionals alike.

This book reflects an emerging cognitive turn in sustainability sciences, conceptualizing environmental challenges during action on our social and material environments, rather than in isolation. Hukkinen argues that this conceptual blending enables sustainability experts to hybridize themselves: to immerse themselves in the fields of other experts and imagine the other's work - both prerequisites of trans-disciplinary knowledge integration. This book shows how sustainability experts can reveal their intellectual engagements when designing scenarios and indicators and presents a rigorous framework for organizing expert collaboration.

More information can be found at <http://www.routledgeeconomics.com/books/Sustainability-Networks-isbn9780415461603>

Call for papers: The project "THE ECONOMICS OF ECOSYSTEMS AND BIODIVERSITY" (TEEB) has launched a Call for Evidence (CfE) on the website of the EU DG Environment. TEEB was launched as a consequence of the G8+5 Environmental Ministers meeting in March 2007 in Potsdam, Germany. Further background information on TEEB can be found [here](#).

The CfE for Phase Two of TEEB welcomes theoretical insights, but is particularly interested in empirical evidence

and practical experience. It covers a range of topics, broadly ranging from the valuation of ecosystems, to national policy and local administration issues, to helping business and consumers understand the problem of biodiversity loss. The CfE is directed at a broad audience of scientists, policy-makers, NGO's and anyone who has hands-on experience with the management of ecosystems and biodiversity.

The Call for Evidence for TEEB can be found at http://ec.europa.eu/environment/nature/call_evidence.htm. The link above will take you to a website where you will find preliminary Tables of Content for the various TEEB end reports. You can submit your evidence (literature, report, website ...) via email or via a questionnaire, where you can provide your evidence in more detail. Your contributions are most welcome. For the foreseeable future, the CfE will remain open and be updated as necessary. Evidence submitted after a future closing date may still be considered.

THE INTERNATIONAL SUSTAINABLE DEVELOPMENT RESEARCH SOCIETY (ISDRS)

www.isdrs.org is pleased to present the first edition of its newsletter. The International Sustainable Development Research Society (ISDRS) aims to foster and communicate the importance of sustainable development in a global society. The society is a coalition of academic researchers, teachers, government, non-governmental organisations and industry. It promotes inter- and trans-disciplinary research and education for sustainable development. You can find the newsletter here: http://www.isdrs.org/documents/ISDRS_Newsletter_Volume1_Issue1.pdf





THE YEAR IN ECOLOGICAL ECONOMICS

OVERVIEW

Ecological economics, "the science and management of sustainability," is a transdisciplinary field of inquiry that connects the study of humans and the rest of nature. The field addresses the optimal scale of the economy, efficient allocation of resources, and the fair distribution of resource flows among populations and between humans and other species.

The Year in Ecological Economics will provide reviews of key issues and subjects in a comprehensive, relevant, and timely fashion, creating a critical point of access to the field of ecological economics, and an opportunity to reflect on past progress and chart the direction forward. *The Year in Ecological Economics* (TYEE) is sponsored and endorsed by the United States Society for Ecological Economics (USSEE) and published by the New York Academy of Sciences. Each Spring we expect to publish a collection of 15-20 in-depth reviews of the most timely and important issues in our field, as a volume within the *Annals of the New York Academy of Sciences*.

CALL FOR PAPERS

We are asking for insightful reviews of key issues and subjects in ecological economics, including natural capital and ecosystem services, energy and the environment, participatory processes, integrated modeling, adaptive institutions, and many more. These reviews should be comprehensive, transdisciplinary, relevant, and timely, creating a critical point of access and reflection.

Submissions should include:

- Title of proposed article
- Author(s), affiliation, contact details
- Abstract (~250 words)

CALL FOR PAPERS

SEND SUBMISSIONS
AND QUESTIONS TO

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United States Society
for Ecological Economics





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**We're on the web
at www.ecoeco.org**

The International Society for Ecological Economics (ISEE) is a not-for-profit, member-governed, organization dedicated to advancing the understanding of the relationships among ecological, social, and economic systems for the mutual well-being of nature and people.

The Society publishes a research journal, 'Ecological Economics', books, and other materials; holds and sponsors scientific meetings; develops educational materials; and facilitates a voice for ecological economists in public forums.

The ISEE Newsletter is published twice a year, is sent free to ISEE members and is available on the ISEE website. The views expressed are those of the individual contributors and do not necessarily reflect the views of the Society as a whole.

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