



Higher Education Leadership in Reversing Global Warming and Creating a Healthy, Just and Sustainable Society

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I am honored to be with you this morning to discuss sustainability in higher education and the American College & University Presidents Climate Commitment (ACUPCC). It is a particular honor to be part of the panel with Bill Durden, Richard Cook and Alice Handy.

What is Sustainability and Why is it Critical for Higher Education to Lead?

Many people use the concept of sustainability without knowing what is really being conveyed. The literal definition of sustainability refers to the ability to maintain a positive status or set of conditions over time. In the past two decades, the concept of sustainability has emerged as an **aspiration for the direction of society** that evolved from the conclusions of the World Commission on Environment and Development (WCED) in its 1987 landmark report entitled "Our Common Future" (Ref.). Established by the United Nations, the WCED examined the worldwide problems of environmental pollution, degradation and destruction and their relationship to hunger, poverty, public health and social and political structure. Contrary to conventional wisdom, traditional economic development was making all of these problems worse. They call for a new kind of development - sustainable development – "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." The WCED report led to the United Nations Conference on Environment and Development, popularly known as the Earth Summit, in Brazil in 1992 at which 162 heads of state developed a 21 point action plan for human progress in the 21st century, Agenda 21. Agenda 21 set the international framework for sustainable development and international environmental treaties and led to the above definition of sustainable development becoming the most commonly accepted meaning of what is now called "sustainability".

The purpose of the international commitment to Agenda 21 was to improve health for current and future humans; build strong, secure, and thriving communities; and provide economic opportunity for all by restoring and preserving the integrity of the life support system – the biosphere. Sustainability is not just about protecting the environment; it is also about finding ways to meet the basic needs of all current and future generations of humans. This can only be done by finding a better way for humans to live within the cradle of life. The earth and its ecosystems provide all the resources and services that make life possible, including the conversion of our waste products into useful substances. Humans can go live about 3 minutes without breathing, 3 days without water and 3 weeks without food. Food, shelter, fuel, pharmaceuticals, water and all economic activity derive from the earth's biosphere. The ability of the biosphere to turn waste products into useful substances and to provide basic ecosystem services like clean water and photosynthesis are indispensable for human survival. For these reasons, sustainability

advocates have focused mostly on the environmental dimensions of sustainability. Unless we also simultaneously focus on the health, social and economic aspects, it is unlikely that we will achieve the desired result – a better life for all current and future generations.

Humanity on a Planetary Stage

Despite the international agreements that emerged from Earth Summit in 1992, humanity is at a crossroads. For the first time in human history, the size and scale of the human population and its technological and economic prowess have made humanity the pervasive and dominant force in the health and well-being of the earth and all its inhabitants. No part of the earth is unaffected by humans, and the scale of our impact is growing exponentially. (The Inuit in Alaska have the highest level of the toxic chemicals polychlorinated biphenyls and DDT in their bodies in the world, despite being 1,000 miles from any industrial activity.) Despite all the work we have done on environmental protection, all living systems are in long-term decline and are declining at an increasing rate according to all international scientific, health, and policy organizations. At same time, 2.7 billion people are without sanitation and earn less than \$2/day, over a billion have no access to clean drinking water and nearly a billion are starving or are seriously malnourished. And the challenge that will accelerate all of the negative trends is global warming, which is leading to unprecedented destabilization of the earth's climate.

Human progress has accelerated in the last 10,000 years during a time of a relatively stable climate. Human settlements and the location of agriculture, transportation (especially inland water and sea) and all other human endeavor have been based on the predictability of the climate. Now all bets are off. Climate disruption is real, worsening and has the potential to undercut society's ability to meet the basic needs of the world's the 9 billion people that will inhabit the earth by mid-century. We have a *civilizational* and *moral* crisis, not merely an *environmental* one. Global warming is a stark (but not the only) indication of the fact that humanity is out of sync with its life support system. Global warming is now destabilizing the earth's climate in ways that threaten to reverse human progress to date and undermine the health, security and survival of millions of people now and in the future. The resulting climate disruption is real and is already affecting us; it is worse and happening faster than predicted by the most conservative scientists. *Reversing global warming is the defining challenge of this century because it presents a fundamental barrier to creating a healthy, just and sustainable society.*

All of these impacts are happening with 25 percent of the world's population consuming 75-80 percent of the world's resources. China and India's 2.5 billion people are now big players on the planetary stage. How will we cope in a world that will soon have 9 billion people and that plans to increase gross world product by 500 percent by 2050? This is an awesome ethical responsibility for us, especially those of us in higher education.

We need an unprecedented shift in the way we think and act. We currently view health, social, economic, political, security, population, environmental, and other major societal issues as separate, competing, and hierarchical when they are really systemic and interdependent. For example, we do not have environmental problems, per se. We have negative environmental consequences of the way we have designed our social, economic, and political system. *We have a de facto systems design failure.* The 21st-century challenges must be addressed in a systemic, integrated, and holistic fashion.

The Case for Higher Education Leadership

Higher education plays a unique and critical role, one often overlooked, in making this vision a reality. Higher education has been granted tax-free status, the ability to receive public and private funds, and academic freedom in exchange for educating students and producing the knowledge that will result in a

thriving and civil society. It prepares most of the professionals who develop, lead, manage, teach, work in, and influence society's institutions, including the most basic foundation of K-12 education. As Michael Crow, ASU President, said at the Climate Leadership Summit of the ACUPCC, "Higher education has 100% of the educational footprint". I would add that we have a great deal of responsibility for the "mindset footprint" that has gotten society to this point in our evolution: the current educational system is (unwittingly) reinforcing the current unhealthy, inequitable, and unsustainable path that society is pursuing.

The Higher Education Response

From Distinct Programs to Systemic Change?

There has been exponential growth in distinct programs related to the *environmental dimension* of sustainability in higher education in the last decade. Exciting environmental studies and graduate programs in every major scientific, engineering and social science disciplines, business, law, public health, ethics and religion are abundant and growing. Progress on modeling sustainability has grown at an even faster rate, especially in the last 5 years. Higher education has embraced programs for energy and water conservation, renewable energy, waste minimization and recycling, green buildings and purchasing, alternative transportation, local and organic food growing and purchasing at a rate of increase unmatched by any other sector. As one example, higher education is the largest user of wind power for electricity in the US. The student environmental movement is the most well organized, largest and most sophisticated student movement since the anti-war movement of the 1960's. These efforts have largely been distinct programs that are helping to *begin* the cultural shift to making *deep and comprehensive sustainability* the goal of higher education. Despite these efforts, the overwhelming majority of graduates know little about the importance of sustainability or how to lead their personal and professional lives aligned with sustainability principles. As institutions, most colleges and universities still view modeling sustainability as an option that they will pursue if they can afford it.

In the last 18 months there have been some large and encouraging shifts in higher education that leads my colleagues and I to believe that we may be approaching a tipping point at some point in the near future. The most significant of these shifts is the American College & University Presidents Climate Commitment.

The American College & University Presidents Climate Commitment.

In December of 2006, 12 college and university presidents, working with the Association for the Advancement of Sustainability in Higher Education (AASHE), ecoAmerica and Second Nature, launched *The American College & University Presidents Climate Commitment*. The ACUPCC is a high-visibility effort to address global warming by garnering institutional commitments to neutralize greenhouse gas emissions, and to accelerate the research and educational efforts of higher education to equip society to re-stabilize the earth's climate. The 12 presidents reached out to nearly 400 of their colleagues and asked them to join them in becoming founding members of this effort. By April of 2007 we had nearly 100 members of the Leadership Circle of Presidents. I am pleased to report that as of today we have nearly 300 signatories to the ACUPCC that represent over 2 million students (nearly 15% of the US population). These institutions, in 45 states, range from the largest public university – Arizona State University – to one of the smallest, College of the Atlantic, 90 private colleges and universities (including several members of the Annapolis Group – THANK YOU), 21 state university systems (including the University of California) and many community colleges.

These presidents believe that leading society to a low carbon, less auto-dependent and circular production

economy fits squarely into the educational, research, and public service missions of higher education – to provide the knowledge and the graduates to create a thriving and civil society. No other institution in society has the influence, the critical mass and the diversity of skills needed to successfully reverse global warming.

Getting to climate neutrality may be the hardest thing that modern society will ever attempt. We will need new technologies, economic instruments and a whole host of strategies for which the research capability of higher education is crucial. This includes dealing with population, consumption and social equity. In many ways it is bigger than the Marshall Plan, the Apollo project, the Manhattan project and the attempt to eradicate cancer - combined. Like these other challenges, it will take great vision, leadership, research and becoming a model for society by higher education.

Why a presidents' commitment?

Only Presidents can provide the strategic direction and convene all the parts of a college or university (the faculty, students, financial and operational staff and trustees) to address the education, research and operational changes needed to combat global warming.

As the leaders of a primary intellectual sector of society, they are declaring that higher education is ready and able to take on the challenge, and are leveraging their positions to call for change at the highest policy levels.

What's more, they are committing to transforming their own campuses – many of which are small cities unto themselves – and sharply reducing and eventually eliminating their emissions that contribute to climate change. This kind of leadership-by-example by a multitude of schools will drive industry, government and other sectors of society to move towards a more sustainable future. Taken as a whole, however, the multitude of schools moving towards climate neutrality will have the powerful direct effect – beyond the impact of any research or policy work by individual institutions – of driving industry, government and other sectors of society to develop the technological and economic revolution that society needs. The importance of the latter cannot be overstressed. Global warming requires global solutions of an unparalleled nature. Continued individual contribution by higher education institutions is not sufficient for the size and scale of challenge and the rapid timeframe for action that is necessary,

In addition, as the climate issue continues to gain prominence, these campuses will be positioned as leaders in the higher education marketplace. They will have a leg up on attracting the best and the brightest students, faculty and research.

About the Presidents Climate Commitment.

In keeping with the tradition of academic leadership, the Commitment is built on two visions, both equally important. First, it is the first effort by any major sector of society to set a long-term goal of *climate neutrality*- not just percentage reductions in emissions. Second, it is embracing a renewed dedication to the critical action, research and education needed to reverse the acceleration of global warming and remove a fundamental barrier to creating a healthy, just and sustainable society.

The participating presidents are committing their institutions to create a comprehensive institutional action plan to move towards climate neutrality.

* Completing a greenhouse gas emissions inventory within one year

* Within two years, setting a target date and interim milestones for becoming climate neutral.

* Taking immediate steps to reduce greenhouse gas emissions by choosing from a list of short-term actions.

* Making sustainability an integral part of the curriculum and educational experience all students.

* Making the action plan, inventory and progress reports publicly available.

In the short term, each President is committing to immediately taking *two or more* of the following concrete actions:

- Purchasing 15% of electricity from renewable sources;
- Adopting U.S. Green Building Council's LEED Silver green standards or equivalent for new buildings;
- Requiring ENERGY STAR certification for products purchased by the institution;
- Offsetting emissions due to air travel;
- Providing access to public transportation;
- Participating in the waste minimization program of Recyclemania
- Supporting climate and sustainability shareholder proposals through their endowment.

The commitment is *comprehensive* recognizing that providing sustainability education to the leaders of tomorrow is as important to eliminating our school's contribution to global warming pollution. Graduates will leave with not just their diploma in hand but also with the tools necessary to develop ongoing solutions to the threat of significant climate change.

Moreover, The positive impact of collective leadership by a large number of colleges and universities could be huge. Global warming is a global problem requiring global solutions of immense proportions. Collaborative action toward the common goal is necessary to deal with this challenge. No one school or subset of schools can solve the problem. The signers of the ACUPCC hope that, through their action, government, business and industry to take notice that they see climate change as a critical issue and let them know that higher education is ready and able to take on the challenge to find solutions for the good of society. This could have a great impact on national policy regarding emission controls, funding for research and education and possibly funding for demonstration projects on a large scale that would be models for cities and towns across the country.

This undertaking by America's college and university presidents is inspired by efforts like the U.S. Mayors Climate Protection Agreement, the U.S. Climate Action Partnership and other collective efforts by states and businesses.

Moving Forward

The inspiring response of nearly 300 presidents to date was the highlight of the public launch of the ACUPCC last week (June 11-12) in Washington, D.C. that was attended by 70 presidents - including several of you. Our goal is to reach 1000 signatories by the end of 2008. We are planning for this next thrust and the critical action needed to support the actual implementation of the Commitment by each signatory institution. A draft guidance document – ACUPCC Implementation Guide – will be sent to all of you for review and comments. After revision it will be released as a final document by September 15, 2007 – the starting date for development of the Commitment action plan by signatories as of that date. We hope that the Implementation Guide will be helpful to those of you that are not yet signatories.

An Implementation Advisory Committee of sustainability and other experts (mostly from colleges & universities and higher education associations) to assist us in developing the best implementation support possible. We are also working with several presidential and other higher education associations (CIC, ACE, NACUBO, APPA, SCUP, et. al., the US Green Building Council, American Council on Renewable Energy, EPA and others establish a “network” of support for signatories. We are also making the ACUPCC website as informative and helpful as possible and encourage you and your staffs to utilize it. Note that one of the documents on the website, “A Call for Climate Leadership”, provides much of the rationale for the Commitment, has many examples of what colleges and universities are already doing on global warming and has a roadmap for institutionalizing your climate change and other sustainability efforts. I also suggest (that if you are not now a member) that your institution join the Association for the Advancement of Sustainability in Higher Education (AASHE), one of the organizers of the ACUPCC. AASHE is a professional association to rapidly advance sustainability through collaboration, information sharing and professional development. It is the primary source of information on sustainability activities in higher education with hundreds of case studies/examples of innovative programs.

It is impossible to be a leader in higher education without thinking a great deal about the future – and not just when its time to deliver commencement addresses. Today’s students and their children will experience the worst effects of climate disruption if we continue business as usual. We are faced with the greatest intergenerational equity challenge in modern history. It is now clear that thinking about tomorrow means taking action on climate change and other aspects of sustainability today.

The signatories recognize achieving climate neutrality will be very hard. The earth does not recognize how hard it is for humans to change. It will respond to the physical changes caused by humans on its own schedule and in its own ways. It doesn’t have the cognitive ability to say that it must wait for humans to figure out how they can change to preserve themselves and their way of life. Humans have risen to challenges like this before. When President John F. Kennedy launched the Apollo project, very few believed that we could ever achieve the goal to walk on the Moon, especially because the technology did not exist to get us there. There are lots of examples of this kind of bold leadership that pushes the limits of knowledge to go beyond what is possible now. Is not one of the primary thrusts of higher education? Our legacy as institutions will, in part, be shaped by how we respond to the challenge of learning to understand and mitigate global warming. We are up to the task and I hope that all of you will join your fellow presidents in this noble and essential effort as quickly as possible.

** The Annapolis Group is an organization of the leading national independent liberal arts colleges, come together to share mutual interests and information that will strengthen their respective educational programs. See www.collegenews.org/theannapolisgroup.xml.*

Resources

American College & University Presidents Climate Commitment www.presidentsclimatecommitment.org

Key web pages:

- Breaking news (including a Summit summary, new ACUPCC policies, and news articles) - <http://www.presidentsclimatecommitment.org/html/news.php>
- The Commitment document itself (you can download a PDF from this page as well) – <http://www.presidentsclimatecommitment.org/html/commitment.php>
- About the Commitment (including “who’s who” and Steering Committee members) - <http://www.presidentsclimatecommitment.org/html/about.php>
- Frequently Asked Questions - <http://www.presidentsclimatecommitment.org/html/faq.php>

- Why sign - <http://www.presidentsclimatecommitment.org/html/whysign.php>
- List of signatories (you can sort by state or by institution using links on the right) - <http://www.presidentsclimatecommitment.org/html/signatories.php>
- “A Call for Climate Leadership” - <http://www.presidentsclimatecommitment.org/html/faq.php>
- [The Science of Global Warming](#) from the National Environmental Trust (2 pages)
- [A Series of Two-Page Briefings](#) on key global warming developments from the National Environmental Trust
- [Global Warming Basics](#) from the Pew Center on Global Climate Change
- [Findings of the IPCC Fourth Assessment Report: Climate Change Science](#) from the Union of Concerned Scientists
- From the IPCC Fourth Assessment Report:
 - IPCC Working Group I Summary for Policy Makers "[The Physical Science Basis](#)" (18 pages)
 - IPCC Working Group II Summary for Policy Makers "[Impacts, Adaptation and Vulnerability](#)" (23 pages)
 - IPCC Working Group III Summary for Policy Makers "[Mitigation of Climate Change](#)" (35 pages)
- “An Inconvenient Truth”, <http://www.stopglobalwarming.org/>
- UNEP Report: [Environmental Degradation Triggering Tensions and Conflict in Sudan](#)

Biography

Dr. Cortese is the principal founder and President of Second Nature, a nonprofit organization with a mission to develop the national capacity to make healthy, just, and sustainable action a foundation of all learning and practice in higher education. He is Co-founder and co-coordinator of the Higher Education Associations' Sustainability Consortium, a co-founder of the Association for the Advancement of Sustainability in Higher Education and a co-organizer, along with AASHE and ecoAmerica, of the American College & University Presidents Climate Commitment.

Prior to his work with Second Nature, Dr. Cortese was the Commissioner of the Massachusetts Department of Environmental Protection. He was the first dean of environmental programs at Tufts University and spearheaded the award-winning Tufts Environmental Literacy Institute and the internationally acclaimed Talloires Declaration of University Leaders for a Sustainable Future.

Dr. Cortese has BS and MS degrees in civil and environmental engineering from Tufts University and a Doctor of Science in Environmental Health from the Harvard school of Public Health.