Leonardo da Vinci to Higher Education:
Lead us on a Healthy, Just and Sustainable Path Now

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Abstract

Humanity is at crossroads without historical precedent. Because of the extraordinary and exponential growth of population and the expansive dynamic of industrial capitalism, humans have become a planetary force comparable in disruptive power to the Ice Ages and the asteroid collisions that have previously redirected Earth’s history. Despite all the work society has done on environmental protection, all living systems are in long-term decline and are declining at an increasing rate. We are severely disrupting the stability of the climate and the earth’s ecosystems, which made human progress to date possible.

There are huge social, economic and public health challenges worldwide. This is happening with 25% of the world’s population consuming 70-80% of the world’s resources. How will we ensure that current and future humans will be healthy, live in strong, secure, thriving communities and have economic opportunity in a world that will have 9 Billion people and that plans to increase economic output 2-4 times by 2050? This is the greatest moral, intellectual and social challenge human civilization has ever faced.

Marginal improvements to business as usual will not work. We need a transformative shift in the way we think act individually and collectively. Higher education must lead the way in our role to provide the knowledge and the educated citizenry for a thriving civil society. We need an economy that sustains people, community, culture and nature. Higher Education's rapidly expanding response to this challenge over the last two decades has been one of the most positive and inspiring trends in society – it is a beacon of hope in a sea of turbulence. However, these efforts are far from sufficient given the scale of the challenge. Most efforts have not been significantly integrated with other socially focused efforts such as civic engagement, social justice, economic development,
poverty alleviation, and human rights. Our efforts do not challenge the deep cultural assumptions that:

- humans are separate from and destined to dominate nature,
- economic growth can continue ad infinitum on a planet whose ability to provide resources and assimilate waste is finite and precarious, and
- technology will allow us to ignore these limits.

Higher education is the only secular sector in society designed with a long-term focus and the ability to provide the knowledge and skills that all today’s and tomorrow’s businesses, government and professionals - architects, engineers, attorneys, business leaders, scientists, urban planners, policy analysts, cultural and spiritual leaders, teachers, journalists, advocates, activists, and politicians – will need on a broad scale. The challenge provides the greatest opportunity that higher education has ever had to demonstrate its crucial and ever-growing importance to society, especially in a time where higher education is under pressure because of accessibility and affordability issues. We must innovate and lead in many different ways (e.g., the American College & University Presidents’ Climate Commitment) quickly and comprehensively.

**Humanity and Higher Education at an Unprecedented Crossroads**

Higher education now has a challenge bigger than any other it has ever faced because humanity is at crossroads without historical precedent.

Because of the extraordinary and exponential growth of population and of the technological/economic system, humans have become pervasive and dominant forces in the health and well being of the earth and its inhabitants. The sum of humanity and the expansive dynamic of industrial capitalism constitute a planetary force comparable in disruptive power to the Ice Ages and the asteroid collisions that have previously redirected Earth’s history. While the earth’s population has grown from 1 billion to 6.7 billion in the last two centuries, energy consumption has risen 80 times and economic output has risen 68 times. Most of that has occurred in the last half century. Despite the impressive array of environmental protection laws and programs in the industrialized countries since 1970, all living systems (oceans, fisheries, forests, grasslands, soils, coral reefs, wetlands) are in long-term decline and are declining at an accelerating rate, according to all major national and international scientific assessments. Some (e.g., major ocean fisheries, coral reefs, forests) have collapsed and more are moving rapidly to total collapse. Humans and the rest of nature are burdened by a staggering array of persistent, toxic natural and manmade chemicals as well as air and water pollution that are affecting our health and the viability of large ecosystems.

At the same time, we are not succeeding in many health and social goals: 3.2 billion people are without sanitation and earn less than $2.50/day, over 1 billion have no access to clean drinking water. The gap between the richest 20% of the world and the poorest 20% has jumped from 28:1 to 85:1 since 1960. Even in the U.S. the gap is the greatest
since the Gilded Age of the late 19th and early 20th century. We have a worldwide economic recession and international conflicts and wars that are destabilizing world society. This is happening with 25% of the world’s population consuming 70-80% of the world’s resources. At the same time, rapid growth, particularly in Asia, is leading more than 2 billion people out of poverty and increasing health, well-being and quality of life for the majority of the world’s population.

The challenge that will accelerate all the negative trends is human-induced global warming, primarily from the burning of fossil fuels. It is now destabilizing the earth’s climate and other life supporting systems. Despite what we may read or hear in the news media (especially in the U.S.), human-induced climate disruption is real and is already affecting us. It is worse and happening faster than predicted by the most conservative scientists just five years ago in 2007. What most people do not understand is that destabilizing the earth’s climate can undermine modern civilization. As Dianne Dumanoski asserts in her recent book, The End of the Long Summer,

“Our way of life depends on a stable climate. The cores of ice drilled from the ice sheets on Greenland and Antarctica tell us we live at a truly extraordinary time within the Earth’s volatile climate history. Through most of our species 200,000-year existence, our ancestors had to cope with a chaotic climate marked by extreme variability, a climate that could not support agriculture. The world as we know it, with agriculture, civilization, and dense human numbers, has only been possible because of a rare interlude of climatic grace—a “long summer” of unusual climatic stability over the past 11,700 years. The human enterprise has become a risky agent of global change. The gargantuan size of our modern industrial civilization is now disrupting our planet’s very metabolism-the vast overarching process that maintains all of earthly life. Because of humanity’s planetary impact, this exceptional moment on Earth is drawing to a close. What lies ahead is a time of radical uncertainty.”

In a July 19, 2012 issue of The Rolling Stone (Global Warming's Terrifying New Math), writer and activist, Bill McKibben, boiled the hard truth about climate down to three stark numbers:

• Two degrees Celsius: the amount, according to international consensus, that we can raise the global average temperature above preindustrial levels and still maintain a so-called "safe" climate, beyond which all bets are off.
• 565 gigatons: the amount of CO2 scientists agree we can still pump into the atmosphere and hope to remain below the two-degree threshold.
• 2795 gigatons: the amount of CO2 contained in the world's proven fossil-fuel reserves, which the fossil-fuel industry shows every intention of extracting and burning.

McKibben says the bottom line is that we have to find a way to leave 80 percent of accessible fossil fuels in the ground, forever, and make a rapid shift to clean energy, if we're going to avoid the very real risk of catastrophic climate change within this century.

Current predictions from international organizations (e.g., UN, World Business Council on Sustainable Development) suggest that without dramatic action, society is likely to grow to 9 billion people and increase economic output 2-4 times by 2050.

While this may (and should) make us uncomfortable, it is current reality. It is important to note that a trend is not a prediction. We need to create a different trajectory for humanity that answers the following central question:

**How do we create a decent quality of life for all current and future humans on a planet where capacity to support life is precarious?**

This is not just an environmental challenge. It is arguably the greatest civilizational, moral and intellectual challenge that humanity has ever faced. It is bigger in scope than the Manhattan Project, the Marshall Plan for Europe, the Apollo Project and the War on Cancer combined. **It is not about saving the planet.** The planet has survived 5 major biological extinctions, the last being 65 million years ago in the age of the dinosaurs, and it will survive the 6th, which is being caused by humans.

As we attempt to create a new human trajectory, we must understand that we can only live about 3 minutes without breathing, 3 days without water and 3 weeks without food. We utterly depend on a clean, safe biosphere. We count on the Earth’s biosphere for food, shelter, fuel, pharmaceuticals, water and many other goods and services. Our society is wholly embedded in the biosphere, and our economy is embedded in society. None of our activities (with the rare exception of space travel) take place in isolation from the biosphere.

**A Change in Mindset**

How did we get here? The cultural operating instructions of modern industrial society are that if we just work a little harder and smarter and let the market forces run society, all these challenges will work themselves out.
But the routine business of our civilization is threatening its own survival, and by putting Earth’s living system in jeopardy, it also risks foreclosing the conditions for any civilized life. In the industrialized world, we are guided by a myth of human separateness from and domination of nature for our purposes. This myth says that because it has worked in the last three centuries, continued physical economic growth will increase the quality of life for a significant portion of the world’s population. It contains an implicit assumption that the earth will be the gift that keeps on giving — providing the resources and converting our wastes into useful substances — ad infinitum. This myth assumes that human technological innovation will allow us to ignore planetary limits.

Moreover, we are dominated by linear short-term thinking that makes it difficult to recognize the magnitude of our cumulative actions, and the danger of their impacts. Our collective impacts are now global, intergenerational and prone to rapid, unexpected shifts. For example, greenhouse gas emissions released today will begin to have their most serious effects in 30-50 years and will continue for several centuries. Through economic globalization we are spreading this cultural and economic paradigm even while its hyper-interdependence makes our societies more vulnerable to the growing instability of natural or human systems. The impact of the 2008 global economic crash continues to depress the worldwide economy and there is great political instability in the Middle East.
Finally, in western industrialized culture, we tend to view increasing material consumption as the principal measure of success, despite its negative effects on health, society and the environment.

We need a transformative shift in the way we think and act. As Einstein said, “We can’t solve today’s problems at the same level of thinking at which they were created.” We currently view the array of health, economic, energy, political, security, social justice, environmental and other societal issues we have as separate, competing and hierarchical when they are really systemic and interdependent. We have a de facto systems design failure.

For example, we don’t have environmental problems, per se. We have negative health and environmental consequences of the way in which we have organized society economically, socially and technologically. The 21st century challenges must be addressed in a systemic, integrated and holistic fashion with an emphasis on creating a new and more desirable ways of helping society succeed. For example, increasing local, sustainable food production in smart ways can provide healthy food and local jobs, while protecting soils, water supplies and ecosystems.

Unfortunately, the current higher education system is reinforcing the unhealthy, inequitable, and unsustainable path that society is pursuing. As David Orr has said – “It is not a problem in education it is a problem of education”. This is not intentional. The structure of higher education is based on the deep cultural (and therefore hidden) assumptions that humans are separate from nature and nature is primarily a source of resources to be used for human purpose. Combine this with the disciplinary structure of learning, which separates areas of study that are in reality interconnected and interdependent, and higher education serves as a powerful mechanism for reinforcing the ways of thinking that have put us on our current unsustainable path.

One example of the many undesirable consequences of this current paradigm, is that the ecological, health and social footprint of our activities is largely invisible to most of us and almost completely absent in the price of products.

Take photocopying and printing. Most people think that the environmental impact comes from the printer or copier and the paper. The real impact is all the way up the supply chain with energy, resources, pollution and waste every step of the way – often orders of magnitude greater than the actual printing. This is true of most industrially produced products, food and services. A recent University of Florida class studying reverse engineering of cell phones found that a ton of used cell phones contained 30 times as much gold as found in the most concentrated virgin ore.

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In our economic system, the prices of goods and services generally do not reflect the negative impact on human health and communities, workers and the earth’s ecosystems. The best estimates of the true life cycle cost of a gallon of gasoline — taking into account health, social and ecological impacts — is between $8 and $12 (the latter especially for the U.S. because of the defense spending to keep oil flowing in areas hostile to the United States).

As a result, the average person in an industrialized country does not know that we consume the equivalent of our body weight in solid materials daily, over 94 percent of which goes to waste before we ever see the product or the service. Consequently, the market fails in efficiently and effectively allocating resources. It allows us to practice a kind of group self-deception about the impact of our daily living. **An important part of education must be to make the invisible impacts (positive or negative) of our daily living, visible.**

**Making the “invisible” “visible”**

- Systemic life cycle impacts
- True cost pricing & accounting
- Better measures of well-being
- Timely ecological and social signals
To create a sustainable economy, we need to apply the concepts of life cycle analysis and true cost accounting. We need to shift to new macroeconomic measures of societal well-being. Our primary current indicator, Gross Domestic Product, only measures the flow of money and the economic value of the country’s assets, not the broader set of measures such as health, education, community viability, and strong family relationships. We also need more timely signals on ecological, health and social trends that allow us to better address challenges, and prevent irreversible damage.

One positive trend is that hundreds of businesses are paying attention to the life cycle of their products through the supply chain. Walmart is now requiring all its 64,000-plus suppliers worldwide to report on and minimize their greenhouse gas emissions and reduce the environmental impact of packaging.

**Hope and Possibility for a New Human Story**

Join me on a journey of hope and possibility.

**Conceptual Shifts**

To start this journey we must make two big conceptual shifts. First, we must move from *problem solving* to *creating*. Problems are negative conditions that we want to eliminate (e.g., environmental degradation or pollution) – has and have been the focus of the environmental and public health movements. Taking away the negative does not necessarily create something positive in the minds of individuals and groups that must change behavior to eliminate the problem. Moreover, we often frame the problem in such narrow terms that solutions often create other problems in time and space. Witness the unintended consequences of the substitution of chlorofluorocarbons for refrigerants – once considered the miracle chemicals because they were non-toxic, inert, stable and non-flammable – later causing destruction of substantial portions of the Earth’s protective stratospheric ozone layer. We need to make a paradigm shift to *creating* the kind of world that we want – something so powerful that it motivates individuals and institutions to action, e.g., the advent of cell phones and the ability to spread communication worldwide quickly.

Secondly, we must focus on how to create an economy designed for the well being of people, communities and nature, not one that hopes the by-products of market success and growth for growth’s sake will benefit people and not harm natural systems.

**Design Principles**

Imagine future scientists, engineers and business people designing technology and economic activities that sustain the natural environment and enhance human health and well being, operating completely on solar/renewable energy. Imagine an industrial and consumption system in which the concept of "waste" is eliminated because every waste product is a raw material or nutrient for another species or activity, or returned into the cycles of nature. Imagine that we are managing human activities in a way that uses
natural resources only at the rate that they can self-regenerate – the ideas embodied in sustainable forestry, fishing and agriculture. By doing so, we could live off of nature’s “interest”, not its capital, for generations to come. This is the concept of **biomimicry** – learning from and imitating nature. This concept is being pursued in hundreds of businesses and must become a framework of education.

Design by **biomimicry** follows Nature’s lead, tapping into a model that has figured out what works and survives after 3.4 billion years of experimentation. When applied through frameworks such as The Natural Step, Cradle-to-Cradle and Natural Capitalism, the principles afford the best chance that all current and future generations will be able to pursue meaningful work and have the opportunity to realize their full human potential both personally and socially.

A November 2011 McKinsey Global Institute report, “Resource Revolution: Meeting the World’s Energy, Materials, Food and Water Needs” points out that application of 15 different energy and resource productivity strategies could meet more than 50% of the global demand by 2030 with a net savings of $2.9 trillion. If carbon is priced at $30 per ton and subsidies on water, energy and agriculture are removed the savings will be $3.7 trillion.

The new human story would emphasize the quality of life over the consumption of stuff. A New York Times story from 2007 ran the headline: “In Silicon Valley, Millionaires Who Don’t Feel Rich.” It described how executives with a net worth of more than $5 million were unhappy with their lifestyle because they compare themselves with neighbors whose net worth is 5-10 times greater. As one executive put it, “Here, the top 1 percent chases the top one-tenth of 1 percent, and the top one-tenth of 1 percent chases the top one-hundredth of 1 percent. You try not to get caught up in it,” he added, “but it’s hard not to.” Our wants are often insatiable and we have an economy driven by advertising to drive these desires.

To make this a reality we must realize that **the road to sustainability is one of culture and values as much as it is about scientific and technological development.** It must be guided by the arts, humanities, social and behavioral sciences, religion and other spiritual inspiration as well as the physical and natural sciences and engineering.

These are the design principles of a healthy, just and sustainable society — principles that include a human consciousness in which we apply the Golden Rule to our dealings with all current and unborn humans as well with the rest of life on earth. To work, these principles must become the basis for society’s economic and governance framework and, therefore, a fundamental part of all education.

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Can this be done?

Yes. Necessity is the mother of invention. A growing consensus of business, government, labor and other leaders around the world believe that a “clean, green economy” based on these principles is the best way to grow the economy, create millions of jobs, help solve our big global challenges around health, the environment, geopolitical stability, and justice.

For example, DuPont has reduced heat-trapping emissions by 72% since 1990 and saved over $3 billion. Ray Anderson, the late founder of Interface, Inc., the world’s largest modular carpet manufacturer with annual sales of $1.2 billion said:

“At Interface, the business case for sustainability (as a core purpose of our business) is crystal clear: A capitalist to the core, I can’t think of a better business case than lower costs, better products, higher morale, loyal employees and goodwill in the marketplace. Our costs are down, not up, dispelling the myth that sustainability is expensive. Our first initiative—zero-tolerance waste—has netted us $433 million in saved or avoided costs, more than paying for all capital investments and other costs associated with sustainability. Our products are the best they’ve ever been. Sustainability is a wellspring of innovation; our product designers have been particularly successful using “biomimicry” as a guide, nature as inspiration. Our people are galvanized around our mission and a shared higher purpose—Maslow at his best: self-actualization that comes when people commit to something bigger than themselves, a type of top-to-bottom and bottom-to-top alignment that sustainability has fostered. The goodwill of the marketplace is tremendous, winning business for Interface because customers want to be aligned with a company that is trying to do the right thing. No amount of marketing, no clever advertising campaign, could have created the kind of customer loyalty that we have experienced.”

A Winter 2012 MIT Sloan Management Review research report, “Sustainability Nears a Tipping Point”, indicates promising trends in an annual survey of 4,000 business managers of large corporations in 113 countries: 70% have placed sustainability permanently on their management agendas and two thirds said that addressing sustainability is necessary to be competitive in today’s marketplace.

Higher Education’s Role

It is clear that today’s and tomorrow’s businesses, government and professionals — architects, engineers, attorneys, business leaders, scientists, urban planners, policy analysts, cultural and spiritual leaders, teachers, journalists, advocates, activists, and

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politicians — will need new knowledge and skills that only higher education can provide on a broad scale.

What if higher education were to take a leadership role in helping to make this a reality?

A college or university would operate as a fully integrated community that models social, economic and biological sustainability itself and in its interdependence with the local, regional and global community. In many cases, we think of teaching, research, operations and relations with local communities as separate activities; they are not. Because students learn from everything around them, these activities form a complex web of experience and learning.

All parts of the college or university system are critical to achieving a transformative change that can only occur by connecting head, heart and hand. The educational experience of graduates must reflect an intimate connection among curriculum and (1) research; (2) understanding and reducing any negative ecological and social footprint of the institution; and, (3) working to improve local and regional communities.

What if the educational experience of all students is aligned with the principles of sustainability outlined above? To achieve this...

The content of learning would reflect interdisciplinary systems thinking, dynamics and analysis for all majors and disciplines with the same lateral rigor across, as the vertical rigor within, the disciplines.

The context of learning would change to make human/environment interdependence, values and ethics a seamless and central part of teaching of all the disciplines, rather than isolated in programs for specialists, or in special courses or modules.

The process of education would emphasize active, experiential, inquiry based learning and real-world problem solving on the campus and in the larger community.

Higher education would practice and model sustainability. A campus would "practice what it preaches" and model economically and environmentally sustainable practices in its operations, planning, facility design, purchasing and investments, and tie these efforts to the formal curriculum.

Higher Education Modeling Sustainability as a Fully Integrated Community
Finally, the **learning and benefit to society** of higher education forming partnerships with local and regional communities as a part of their mission. For example, in the U.S., the 4,500 higher education institutions in the United States are, themselves, large economic engines with annual operational budgets totaling $325 billion annually. This is about 2.5% of US GDP and greater than the GDP of all but thirty-one countries in the world. Higher education has the ability to create new and better markets for goods and services that will improve society in all ways – not just in narrow economic terms.

Frank Rhodes, former president of Cornell University suggests that the concept of sustainability offers “a new foundation for the liberal arts and sciences.” It provides a new focus, sense of urgency, and curricular coherence at a time of drift, fragmentation, and insularity in higher education, what he calls “a new kind of global map.” Sustainability provides a vital source of hope and opportunity for facilitating institutional renewal and revitalizing higher education’s sense of mission.

### The Current Reality in Higher Education

The great news is that there has been unprecedented, exponential growth in distinct academic programs related to the **environmental dimension** of sustainability in higher education, especially in the last decade. Exciting environmental (and now sustainability) studies and graduate programs in every major scientific, engineering and social science discipline, business, law, public health, behavioral sciences, ethics and religion are abundant and growing.

Progress on campuses modeling sustainability has grown at an even faster rate. 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 ‘sustainable’ purchasing - saving both the environment and money.

The student environmental movement in the U.S. is the most well-organized, largest and most sophisticated student movement since the civil rights and anti-war movement of the 1960’s. And higher education environmental efforts have become publicly visible to a degree that was unimaginable a decade ago. These developments represent one of most encouraging trends in higher education innovation since World War II.

Unfortunately, higher education is doing a poor job on the health, social and economic dimensions of sustainability. 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. Moreover, most of the excellent and exciting sustainability-oriented innovation in higher education have been led by (1) individual groups (students, a subset of the faculty, a subset of the business and operations staff - often working together), (2) have

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primarily focused on the environmental dimension of sustainability and (3) have largely focused on educating environmental and sustainability professionals within the framework of existing academic disciplines. Few have been integrated with social efforts such as civic engagement, social justice, economic development, poverty alleviation, and human rights.

With a few exceptions sustainability, as an aspiration for society, is not a central institutional goal, or *lens* for determining the success of higher education institutions.

**A Beacon of Systemic Change:**
the American College & University Presidents’ Climate Commitment

One of the brightest beacons of light for the systemic change in the U.S. is the American College & University Presidents’ Climate Commitment (ACUPCC)\(^6\), launched in January of 2007 by 12 college and university presidents, working with Second Nature, the Association for the Advancement of Sustainability in Higher Education (AASHE) and ecoAmerica. It is a high-visibility, joint and individual commitment to:

- Measure, reduce and eventually neutralize campus greenhouse gas emissions,
- Develop the capability of students to help all of society do the same and,
- Importantly, *to publicly report on their progress*.

As of the Fall 2012, 665 colleges and universities in all 50 states and the District of Columbia representing 6.3 million students (45% of the college student population) are members of this network. Every type of school is represented – public, private, community colleges, tribal and other minority-serving colleges, religious-affiliated schools, baccalaureate, graduate degree granting and large research universities.

Emission inventories, action plans and progress reports are all publicly available on the ACUPCC website – [www.acupcc.org/reportingsystem](http://www.acupcc.org/reportingsystem). To date 480 of the ACUPCC campuses have submitted climate action plans. The results are very exciting and all available on line for public review.

Second Nature provides the ongoing support and organization of the ACUPCC Network.

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Ball State University in Indiana with 44,000 students is taking the current, aging coal-fired boilers offline and reducing the amount of carbon dioxide emissions by over 80,000 tons annually, which will save the university $2 million in annual fuel costs when fully implemented.
Mount Wachusett Community College in Massachusetts generates 97% of the electricity it uses — largely from two wind turbines on campus. This saves the campus $700,000 per year, and has enabled them to reduce emissions 60% below 2000 levels by 2012; putting them well on their way to achieving their goal of net-zero greenhouse gas emissions by 2019.
Butte College in California was the first institution in the United States to go "grid positive" — generating more electricity on campus than it draws from the grid. Butte’s 25,000 photovoltaic panels generate 6.5-million kilowatt-hours of electricity per year—enough to power more than 9,000 US homes. The College predicts that this investment in solar energy will save them approximately $50-75 million over the next 15 years.

**This is unprecedented leadership by higher education.** Higher Education is the first and only major U.S. sector with a significant number of its members to commit to climate neutrality. This is especially important given the inability of the international community and, in my case, the US Congress to act. These schools are doing what is scientifically necessary, not what is easily doable within their current mode of operation. They are sending a strong signal to society that climate change and other large scale unsustainable societal practices are real, that urgent action is needed and that higher education is taking action to model sustainable behavior and to provide the knowledge and educated graduates necessary for society to do the same. They believe that the positive impact of collective leadership by a large number of colleges and universities will be huge. Global climate disruption and creating a sustainable society is a global problem requiring global solutions of immense proportions. The scope, scale and speed of the challenge demand an unprecedented level of collaboration by all of higher education.

For the members of the network the ACUPCC has created a successful learning
community among the participating institutions. Participating institutions are sharing plans and experiences, working together to address challenges and helping to create new knowledge and financial resources to benefit all of the institutions in higher education. Finally, the ACUPCC has fundamentally shifted higher education’s attention on sustainability from a series of excellent, distinct programs to a strategic imperative of presidents, academic officers, business officers and trustees. Sustainability is becoming a key lens for measuring success. It represents an unprecedented institutional and cultural shift to focus on all aspects of social, economic and ecological sustainability.

The ACUPCC Initiative

- Led by presidents & chancellors
- 660 + institutions
- 50 States & one-third of student population
- Action plan for climate neutrality
- Research & education
- Public accountability

As of October 2012, just five years later, 661 colleges and universities in all 50 states and the District of Columbia are actively working to fulfill this unprecedented commitment. They represent 6.3 million students – about 35% of the U.S. student population and include every type of institution from 2-year community colleges to the biggest research universities.

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change and other large scale unsustainable societal practices are real, that urgent action is needed and that higher education is taking action to model sustainable behavior and to provide the knowledge and educated graduates necessary for society to do the same.

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**Conclusion**

Many inside and outside of higher education argue that achieving climate neutrality and sustainability as a society and getting higher education to lead this effort is impossible. But we must make that which seems impossible, inevitable. If we continue business as usual, today’s students and their children will experience the worst effects of climate disruption and other large unsustainable means of meeting human needs and will find themselves in a world with greatly diminished prospects for a good quality of life, peace and security. We are faced with the greatest intergenerational equity challenge in modern history. The earth does not recognize how hard it is for us humans to change. It will respond to the physical changes we cause on its own schedule and in its own ways. It doesn’t have the cognitive ability to decide to wait for us to figure out how we can change to preserve our way of life and ourselves.

The opportunity is for us to have vision for the kind of healthy, just and sustainable world and mobilize to make it a reality. To quote Benjamin E. Mays, former president of Morehouse College and mentor to Dr. Martin Luther King said: "The tragedy of life doesn't lie in not reaching your goal, the tragedy lies in having no goal to reach."

Richard Cook, who retired in 2008 as president of Allegheny College — one of the founders of the American College & University Presidents’ Climate Commitment — wrote:

“I liken this pledge to President Kennedy’s promise to get men to the moon and back within the decade. Neither he nor a cadre of engineers and scientists knew exactly how this would be accomplished or if, indeed it could be. But making a bold pledge to accomplish a strategically important end spurred attention, resources, talent, and urgency to a lofty goal that would be difficult to attain. In much the same way, the Commitment to becoming climate neutral institutions will spur development and accountability, and will surely, in most cases, produce more and better results in a shorter period of time than something short of a specific target. The collective voice of higher education can spotlight our sincere concern and commitment to action in ways that few if any other sectors can. We have largely provided the research that has highlighted the climate concern; we also can provide many of the solutions. If the colleges and universities don’t lead, who will?”

For an undertaking of this magnitude and complexity, the active involvement of an organization’s senior leadership is crucial. This active involvement must go far beyond merely “checking the box” that sustainability is a priority. It requires constant, skillful,

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and persistent attention, and the kind of energy, vision and creative thinking that can inspire large numbers of people to imagine a better future and stay committed to create it.

I hope that you already are, or will consider making education for a healthy, just and sustainable society an active goal of your efforts. Further, I hope that you will consider joining or making a commitment similar to the American College & University Presidents Climate Commitment. We would be happy to work with you to make this a reality.

**Biography**

Anthony D. 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 the organizer of the American College & University Presidents Climate Commitment signed by 670+ college & university presidents in all 50 states. He is cofounder of the Association for the Advancement of Sustainability in Higher Education and co-founder and co-coordinator of the Higher Education Associations Sustainability Consortium. He is frequent speaker, author and consultant to higher education, industry and non-profit organizations on institutionalization of sustainability principles and programs.

Dr. Cortese was formerly the Commissioner of the Massachusetts Department of Environmental Protection. He was the first Dean of Environmental Programs at Tufts University and founded the award-winning Tufts Environmental Literacy Institute and the internationally acclaimed Talloires Declaration of University Leaders for a Sustainable Future.

Dr. Cortese is a trustee of Green Mountain College, a Fellow of the American Association for the Advancement of Science and a Woodrow Wilson Fellow for higher education.

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