

Mobilizing Higher Education to Create a Healthy, Just and Sustainable Society

by

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President Torgerson, members of the distinguished faculty, administrators, staff, members of the Decorah community and, above all, students of Luther College, it is a great honor to help celebrate your Convocation. I am especially honored to be at a college that has had a long-standing tradition of educating for character and citizenship as well as commerce and career. You are well poised to help lead society in the 21st century. This morning I ask you to consider how society and higher education must rapidly evolve to assure that all current and future humans are healthy, that there are strong, thriving and secure communities and that there is economic opportunity for everyone within the limits of a finite living planet, a planet whose capacity to sustain life is presently precarious.

What is Sustainability and why should we care?

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". 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, economic and political structure and human rights. Contrary to conventional wisdom, traditional economic development was making all of these problems worse. They called 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."

It is important to note that the WCED definition of sustainability is focused on meeting human needs and that sustaining the life support system was essential to doing so. The WCED understood that earth and its ecosystems provide all the resources and services that make life possible, including the conversion of our waste products into useful substances. As pioneering economist, Herman Daly, and Senator Gaylord Nelson have said, "the economy is a wholly owned subsidiary of 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.

I am not worried about saving the planet. It has survived 5 major biological species' extinction in the past, the last being that during the dinosaur age 65 million years ago. It will survive the 6th major extinction that is underway because of unsustainable human living. The issue is preserving the earth's capacity to support a thriving, modern civilization.

(As an aside, my own journey in working on better ways to meet human needs spring from my childhood growing up in the North End of Boston, then a blue collar community of mostly Italian Americans, in a family that encouraged me to get a good education as a means to having a good life. We swam and went clamming in Boston Harbor until I was about age 8, when those activities were banned because of gross pollution. The air quality was terrible and chronic bronchitis and asthma was rampant.

I wanted to be an engineer and Tufts was the school that I dreamed of attending. Because of the strong connection with the College of Liberal Arts and a culture of community involvement (as you do at Luther College), I became exposed to an incredible array of perspectives that completely shifted my focus from wanting only the dominant ideal of the American Dream - a good job and family - to making a contribution to all of society. I wondered why we couldn't have human progress without pollution, remembered my childhood experience and decided to become a civil and environmental engineer. *For me the journey of protecting the environment was all about public health and my education was an eye opener.* I learned that, contrary to conventional wisdom, most of the improved health and longevity that we enjoy in modern society were accomplished through public health and engineering measures related to improved water and food sanitation, reduction in physical crowding, central heating and moving from wood and coal to oil and gas for cooking and heating. I then pursued a career in public service following the call of President Kennedy, believing that a life of service to society was one of the highest callings.)

Humanity and Higher Education at a Crossroads

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 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.

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 - especially since the mid 20th century - humans have become pervasive and dominant forces in the health and well being of the earth and its inhabitants. While the earth's population has

grown from 1 billion to 6.7 billion in the last two centuries, energy consumption has risen 68 times and economic output has risen 80 times. No part of the earth is unaffected by humans and the scale of our impact is huge and growing exponentially. According to all major national and international scientific assessments, all living systems (oceans, fisheries, forests, grasslands, soils, coral reefs, wetlands) are in long-term decline and are declining at an accelerating rate. The air, water and land have become the repository for thousands of toxic chemicals and other pollutants. The environmental challenges are now global, intergenerational and prone to rapid, unexpected shifts. 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.

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 a billion have no access to clean drinking water, water shortages are rampant around the world and getting worse and there have been food riots on three continents because the price of food staples has more than doubled in the last 2 years. And, of course, there are the worldwide economic recession and international conflicts and wars over resources such as oil and water - as well as ideology - that are destabilizing world society.

And the challenge that will accelerate all the negative trends is human induced global warming that is now destabilizing the earth's climate and other systems in ways that threaten to reverse human progress to date and to undermine the health, security and survival of millions of people now and in the future. What is not common knowledge is that human progress has accelerated in the last 10,000 years during a time of a *relatively stable climate - according to archeological and ice core records, the longest period of climate stability in human history*. The location of our cities and communities, agriculture, ports and other transportation, businesses and other human endeavor, in large part, has been based on the predictability of the climate. Now all bets are off. The resulting climate disruption is real and is already affecting us: it is *worse* and happening faster than predicted by the most conservative scientists just 3 years ago. Moreover, the emissions of carbon dioxide (the principal heat-trapping gas from fossil fuel combustion) *today* will continue to disrupt the climate for the next several centuries creating an ecological and economic debt for future generations.

We have a *civilizational and moral* crisis, not merely an *environmental* one. *Global climate disruption represents a fundamental barrier to creating a healthy, just and economically and environmentally sustainable society*. It is a stark (but not the only) indication of the fact that humanity is out of sync with its life support system. The scientific consensus is that society must stabilize global emissions of greenhouse gases in the next 5 years and reduce them by at least 80% by mid-century at the latest, in order to avert the worst impacts of global warming. Moreover, the emissions of carbon dioxide (the principal heat-trapping gas from fossil fuel combustion) *today* will continue to disrupt the climate for the next several centuries creating an ecological and economic debt for future generations.

All of these impacts are happening with 25 percent of the world's population consuming 70-80 percent of the world's resources. China and India's 2.5 billion people are now big players on the planetary stage wanting to create a better quality of life for their citizens. By 2050 the world will have 9 billion people and current plans are to increase gross world product 4 times by 2050.

While this knowledge may and should make us uncomfortable, this is the reality of where we are as a human species and leads to the overarching question: ***How will society assure that all current and future humans are healthy, that there are strong, thriving and secure communities and that there is economic opportunity for everyone within the limits of a finite living planet, a planet whose capacity to sustain life is presently precarious?*** This may be the greatest intellectual, moral and social challenge modern human civilization 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 important to note that a trend does not predict or make the future, what we do will determine the future.*

A Shift in Mindset

The cultural operating instructions of modern 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. *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 and environmental issues we have 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 with an emphasis on creating a new and more desirable ways of helping society succeed, e.g., local, sustainable food production that provides healthy food, local jobs, protects soils and water supplies. It is also a greater motivator for individual and institutional change.

Unfortunately, the current educational system is reinforcing the current unhealthy, inequitable and unsustainable path that society is pursuing. This is not intentional – it is because of deeply held beliefs that humans are the dominant species and separate from the rest of nature, the predominance of disciplinary learning and an implicit assumption that the earth will be the gift that keeps on giving - providing the resources and assimilating our wastes and negative impacts - ad infinitum and irrespective of the size of the population or its level of its material desire.

Hope and Possibility

In the next few minutes, join me on a journey of hope and possibility. Imagine a society in which all present and future humans are healthy and have their basic needs

met. 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 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.

Imagine that we know where all resources come from and all waste goes. Our current ecological, health and social footprint is largely *invisible* to most of us and almost completely absent in the price of products. Some of you may be old enough to remember the TV game show in the 50's called "The Price is Right" in which you won the item offered if you could guess the price. Our economic system acts as if the price is right. In truth *the price is mostly wrong* because it doesn't reflect the negative impact on human health and communities, workers and the earth's ecosystems. Currently, the price is the proverbial tip of the cost iceberg. The best estimates of the true life cycle health, social and ecological cost of a gallon of gasoline, for example, is between \$8 and \$12 (including the amount we spend on defense to keep the oil flowing). As a result, the average American does not know that through the economic system, 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*. For example, it takes about more than 5,000 – 6,000 pounds of material, most of which went to waste before use, to make a laptop computer. As a result we practice a kind of group self-deception about the impact of our daily living. See www.storyofstuff.com.

As we all know, we measure what we value and we manage what we measure. So, imagine that we are making all these impacts *visible* and all customers have accurate information on life cycle health, social and environmental costs of all resources and products. Then we would have market information parity between the seller and the buyer and the market would operate more fairly and efficiently. Walmart is now requiring all its 64,000 suppliers worldwide to report on and minimize their "greenhouse gas" footprint and reduce the environmental impact of their packaging. An important part of education must be to make the *invisible impacts, (positive or negative), visible*.

Now, imagine that all current and future generations are able to pursue meaningful work and have the opportunity to realize their full human potential both personally and socially. Imagine that communities are strong and vibrant because they celebrate cultural diversity, are designed to encourage collaboration and participation in governance and emphasize the quality of life over the consumption of stuff. *The latter is critical because human wants can be insatiable while the earth's ability to meet our wants are finite and shrinking – see the August 5, 2007 New York Times story: "In Silicon Valley, Millionaires Who Don't Feel Rich"*. In that article some executives with a net worth of

more than \$5 million discuss how their families are unhappy with their lifestyle because they compare themselves with neighbors whose net worth is 5-10 times greater. The road to sustainability is one of values as much as it is about scientific and technological development. If the challenges were mainly scientific and technological they would have been solved. *The road to sustainability must be guided by the arts, humanities, social and behavioral science, religion and other spiritual inspiration as well as the physical and natural sciences and engineering.*

Consider these ideas as the design principles of a healthy, just and sustainable society - principles based on 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 that evolved on earth. To work, these principles must become the basis for society's economic and governance framework

Can we do this?

Absolutely: because we must. As we all know, necessity is the mother of invention. Besides some of it is happening in virtually every sector in society. A growing consensus of business, government, labor and other leaders believe that a clean, green economy based on these principles is the *only way* to stabilize the economy, restore American economic leadership, create millions of jobs, improve national security and help solve global health and environmental problems. A clean/green economy - starting with maximizing energy and resource efficiency – will stabilize and reduce energy and resource costs, reduce chronic air and water pollution and greenhouse gases and strengthen the economy by shifting expenditures for energy to investment in innovation.

For example, DuPont has reduced heat-trapping emissions by 72% since 1990 and saved \$4 billion. A metaphor for the new direction of the US economy is how General Electric is selling diesel locomotives to China and Brazil despite the fact that they are more expensive than locomotives those countries can build. GE locomotives built in a Pennsylvania plant employing 4700 workers are much more fuel efficient and more reliable and therefore desirable. *This represents an important societal shift in thinking.* There have been 6 major economic downturns in the last 50 years. In the first 5 of these, industry, state legislatures and the Congress called for relaxing environmental and health standards to cope with the economic challenges. In the current one, it is just the opposite. Environmentally preferable actions are considered to be the best way of restoring and sustaining economic stability. Just this week I learned that 27% of venture capital funding is going to clean tech/renewable energy.

The new direction will not be easy. Quitting using fossil fuels is like quitting smoking – the difficulty in quitting is immediate while many of the important benefits are long-term.

Education for the Twenty-first Century

What if higher education were to take a leadership role, as it did in the space race and the war on cancer, in preparing students and providing the information and knowledge to achieve a just and sustainable society? What would higher education look like? A college or university would operate as a fully integrated community that models social 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 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 so that they are healthier, more socially vibrant and stable, economically secure and environmentally sustainable.

Just imagine if, in the twenty-first century, the educational experience of all students is aligned with the principles of sustainability. To achieve this...

The content of learning will 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 will change to make human/environment interdependence, values and ethics a seamless and central part of teaching of all the disciplines, rather than isolated as a special course or module in programs for specialists.

The process of education will 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.

Finally, the ***learning and benefit to society*** of higher education forming partnerships with local and regional communities to help make them socially vibrant, economically secure and environmentally sustainable will be a crucial part of successful higher education – especially because the 4,100 higher education institutions in the United States are, themselves, large economic engines with annual operational budgets totaling \$350 billion annually – this is about 2.5% of US GDP and greater than the GDP of all but twenty-five countries in the world. We have 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.

As I said earlier, this direction is a natural evolution of the long tradition that Luther College has had to educate for character and citizenship as well as commerce and career.

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, especially in the last 3-5 years. Exciting environmental studies and graduate programs in every major scientific, engineering and social science discipline, business, law, public health, ethics and religion are abundant and growing. Progress on 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 rate of increase is unmatched by any other sector of society.* The student environmental movement is the most well organized, largest and most sophisticated student movement since the anti-war movement of the 1960’s.

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.

In the last 3 years there have been some large and encouraging shifts in higher education that lead my colleagues and I to believe that we may be approaching a *tipping point* in the orientation of higher education at some point in the near future. One of the most significant of these shifts is the American College & University Presidents Climate Commitment.

The American College & University Presidents Climate Commitment.

In February of 2007, 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 (ACUPCC)*. The ACUPCC is a high-visibility, joint and individual commitment to address global climate disruption through actions to reduce and

eventually neutralize greenhouse gas emissions, and to develop the capability of students to help all of society to do the same.

The participating presidents are committing their institutions to create a comprehensive institutional action plan to move towards climate neutrality that involves measuring greenhouse gas emissions, establishing targets, and timetables and actions for emission reductions, establishing programs to make sustainability an integral part of the curriculum and educational experience of all students and making the action plan, inventory and progress reports publicly available.

As of today, just 3 years later, 667 colleges and universities in all 50 states and the District of Columbia have made this unprecedented commitment. They represent 5.6 million students – about 33% of the student population and include every type of institution from community colleges to the biggest research universities (Ohio State University and Arizona State University). I am delighted to report that Luther College was one of the Charter signatories of the ACUPCC and I especially want to thank President Torgerson and so many key members of the Luther College community for your leadership.

Courageous leadership

The ACUPCC is an example of courageous leadership by college and university leaders. This is the first major U.S. Sector to commit to climate neutrality and the first time since WWII that higher education in the US has collectively stepped forward to take on a major societal challenge without waiting for some external entity to request it or fund them. The 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. 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 new knowledge and skills that only Higher Education can provide on a broad scale.

Impact

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. Individual action separately by individual institutions will not work and is what has gotten us to where we are now. Moreover, given the failure of the international community to agree on climate action and the slowness of the U.S. Congress to act, the ACUPCC is being viewed as a model for international cooperation.

The American College & University Presidents Climate Commitment 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 – becoming a *key lens for measuring success*. It represents a *cultural shift* to

focus on all aspects of social, economic and ecological sustainability.

We have numerous anecdotes on how effective the Commitment has been in raising the importance of all sustainability initiatives on campus and in the classroom. According to presidents at dozens of colleges and universities, the ACUPCC has done as much to build a vibrant community and a sense of shared purpose across the institutions than any other initiative in recent memory.

Moving Forward

I am pleased to report that 75% of the first 400 signatories have submitted their greenhouse gas emission inventories, are implementing recommended near-term actions, from green building standards to energy-efficient purchasing policies to utilizing renewable energy for electricity and the first 135 climate action plans have been submitted – we will have about another 120 by the end of March.

Conclusion

The participating presidents believe it is impossible to be a leader in higher education without thinking a great deal about the future. 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. When we surveyed the presidents participating in the ACUPCC, the majority said the most important reason for making the commitment was that it was the *right thing to do* for the sake of their students and their students' children and grandchildren.

Some have argued that achieving climate neutrality and sustainability is too hard or impossible and that the ACUPCC is not practical or possible. What we must do is ***make the impractical or seemingly impossible inevitable***. 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.

Richard Cook, who retired in 2008 as president of Allegheny College – one of the founders of the ACUPCC - wrote in a letter to another president who has not yet made the Commitment:

“I liken this pledge to 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?"

Some Organizational Resources

Sustainability and Higher Education

Second Nature

www.secondnature.org

American College & University Presidents Climate Commitment

www.presidentsclimatecommitment.org

Association for the Advancement of Sustainability in Higher Education -

www.aashe.org AASHE is the most comprehensive network and source of information about sustainability initiatives, actions and programs in hundreds of higher education institutions.

Higher Education Associations Sustainability Consortium – www.heasc.net

HEASC is an informal network of 16 higher education associations with a commitment to advancing sustainability within their constituencies and within the system of higher education itself.

US Partnership for Education for Sustainable Development

www.uspartnership.org

Energy Action Coalition

www.powervote.org

Clean Air-Cool Planet (Greenhouse gas emission calculator for colleges and Universities)

www.cleanair-coolplanet.org

National Wildlife Federation

www.nwf.org/campusecology

Alliance for Climate Protection

www.wecansolveit.org

Design Principles for a Healthy, Just and Sustainable Society

Design Principles

The Natural Step - www.naturalstep.org

Natural Capitalism – www.natcap.org
Biomimicry – www.biomimicry.net
Sustainability Institute – www.sustainer.org
Cradle-to-Cradle Design – www.greenblue.org
Ecological Footprint – www.footprintnetwork.org
US Green Building Council – www.usgbc.org
Architecture 2030 – www.architecture2030.org
Precautionary Principle: Science & Environmental Health Network - www.sehn.org
Environmental Justice Network – www.ejnet.org
Center for a New American Dream – www.newdream.org

Global Sustainability Policy

Earth Policy Institute – www.earth-policy.org
World Resources Institute – www.wri.org
Worldwatch Institute – www.worldwatch.org
The Solutions Journal - www.thesolutionsjournal.com

Sustainability and the Economy

The Apollo Alliance – www.apolloalliance.org
Green For All – www.greenforall.org
US Climate Action Partnership – www.us-cap.org
GreenBiz.com – www.greenbiz.com
World Business Council for Sustainable Development – www.wbcsd.org
International Society of Ecological Economics – www.ecoeco.org

Creation Care

Ausable Institute of Environmental Studies – www.ausable.org
National Association of Evangelicals – www.nae.net
Evangelical Environmental Network – www.creationcare.org
Creation Care for Pastors – www.creationcareforpastors.com

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 also a co-organizer of the American College & University Presidents Climate Commitment signed by 630+ college & university presidents

in all 50 states. He is co-founder 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 of the Advancement of Science and a Woodrow Wilson Fellow for higher education.

Dr. Cortese has B.S. and M.S. Degrees from Tufts University in civil and environmental engineering, a Doctor of Science in Environmental Health from the Harvard School of Public Health and honorary doctor of philosophy from Allegheny College.