



Advance Praise for

## ***EarthEd: Rethinking Education on a Changing Planet***

---

***EarthEd*** is a welcome and urgently needed addition to the education of children. With their entire futures at risk from our current path, youth will benefit greatly from the wisdom and perspectives in these essays. Adults are often reluctant to change their lifestyles, but when their children see the world through the lens of environmentalism and ask parents to protect their futures, that can galvanize change.”

—**David Suzuki**, award-winning scientist, environmentalist, and broadcaster

“The strength of ***EarthEd: Rethinking Education on a Changing Planet*** is the timeliness of its topic and the appeal of up-to-date scholarship and thinking coupled with the pedagogical implications and best practice applications. The book provides numerous, diverse, and exciting models of learning rooted in Indigenous ways of knowing, in learning *from* and *in* nature, in innovative collaborations between schools and governments, and in programs designed to make goals of sustainable development tangible and meaningful.”

—**Thomas Walker**, Director of the Environmental Studies Master’s Program, Goucher College

“This book examines how we can rethink education to foster students’ natural development of their best selves—to allow them to play, to let them connect with nature, to encourage creativity through the arts, and to engage with issues through meaningful ‘real world’ experiences. The good news is that these steps are achievable in schools. And the more individual educators do them, the more chance we collectively have of helping shift education to prepare students for the realities of the future they face. Though it’s easy to be overwhelmed by the challenges facing our planet, this volume outlines actionable, viable, and satisfying shifts that we can make in the education of the next generation of leaders.”

—**Buffy Cushman-Patz**, Founder and School Leader of the School for Examining Essential Questions of Sustainability (SEEQS)

“The timing and theme of ***EarthEd: Rethinking Education on a Changing Planet*** is critically important to all of humanity. The planet’s survival rests on works such as this to inspire a new generation of educators to help students navigate the pathways toward a just and sustainable future.”

—**Lee F. Ball Jr.**, University Sustainability Director, Appalachian State University

“Never has Worldwatch’s classic ***State of the World*** series been as critical as it is today. The 2016 U.S. elections clearly demonstrated how broken educational systems are with regard to the existential threats faced by civilization. ***EarthEd: Rethinking Education on a Changing Planet*** provides guidance on how that disaster might be avoided in the future—a textbook for all educators and those wishing to fix the system.”

—**Paul R. Ehrlich**, President, Center for Conservation Biology, Stanford University

STATE OF THE WORLD

---

# EarthEd: Rethinking Education on a Changing Planet

Erik Assadourian, *Project Director*

Cem İskender Aydın  
Pamela Barker  
Nicole Bell  
Monica Berger-González  
Marvin W. Berkowitz  
Bill Bigelow  
Eve Bratman  
Kate Brunette  
Kelli Bush  
Melissa Campbell  
Liliana Caughman  
David Christian  
Dwight E. Collins  
Jonathan Dawson  
Rafael Díaz-Salazar  
Robert Engelman  
Joshua Farley  
Kei Franklin  
Russell M. Genet  
Josh Golin  
Dag O. Hessen

Andrew J. Hoffman  
Craig Holdrege  
Daniel Hoornweg  
Nadine Ibrahim  
Esbjörn Jorsäter  
Mona Kaidbey  
Lesley Le Grange  
Laura Lengnick  
Carri J. LeRoy  
Chibulu Luo  
Helen Maguire  
Michael Maniates  
Monica M. Martinez  
Amanda McCloat  
Amy McConnell Franklin  
Dennis McGrath  
Alexander Mehlmann  
Marilyn Mehlmann  
Asher Miller  
Melissa K. Nelson  
Simon Nicholson

Sabine O'Hara  
Hugo Oliveira  
Ali Değer Özbakır  
Jessica Pierce  
Raquel Pinderhughes  
Olena Pometun  
Luis González Reyes  
Mark Ritchie  
Jacob Rodenburg  
Bunker Roy  
Michael Sanio  
Deirdre Shelly  
David Sobel  
Michael K. Stone  
Linda Booth Sweeney  
Takako Takano  
Vanessa Timmer  
Joslyn Rose Trivett  
David Whitebread  
Nancy Lee Wood  
Tetsuro Yasuda

Erik Assadourian and Lisa Mastny, *Editors*



Washington | Covelo | London

Copyright © 2017 by Worldwatch Institute  
1400 16th Street, NW  
Suite 430  
Washington, DC 20036  
[www.worldwatch.org](http://www.worldwatch.org)

THE STATE OF THE WORLD and WORLDWATCH INSTITUTE trademarks are registered in the U.S. Patent and Trademark Office.

The views expressed are those of the authors and do not necessarily represent those of the Worldwatch Institute; of its directors, officers, or staff; or of its funders.

All rights reserved under International and Pan-American Copyright Conventions. No part of this book may be reproduced in any form or by any means without permission in writing from the publisher: Island Press, 2000 M Street, NW, Suite 650, Washington, DC 20036.

ISLAND PRESS is a trademark of Island Press/The Center for Resource Economics.

Library of Congress Control Number: 2017931703

ISBN 13: 978-1-61091-842-8

ISBN 10: 1-61091-842-8

The text of this book is composed in Minion Pro, with the display set in Myriad Pro.  
Book design and composition by Lyle Rosbotham.

♻️ Printed on recycled, acid-free paper

Manufactured in the United States of America

For additional related and updated content, videos, blog posts, and links, and to learn more about Worldwatch's EarthEd Catalyst Network, visit [www.EarthEd.info](http://www.EarthEd.info).

PART TWO

# Higher Education Reimagined

---

# Suddenly More Than Academic: Higher Education for a Post-Growth World

---

*Michael Maniates*

Over the past twenty years, higher education has undergone an environmental revolution. Campus sustainability offices that track resource use and promote eco-efficiency are becoming the norm. The number of academic programs in sustainability science and environmental studies has increased, as have student enrollments and passion. New academic journals have flourished, and with them venues for publication by young academics aspiring to become tenured professors in the field. It is true that many colleges and universities worldwide have not fully embraced this momentum: they have yet to incorporate tenets of sustainability into their hiring, curriculum, infrastructure planning, or investment strategies. But these institutions are viewed increasingly as outliers that poorly serve their students and the social good. Anthony Cortese, an early advocate of environmental stewardship within higher education, gets it right when he recently observed that “higher education’s rapidly expanding response to this [environmental] challenge over the last two decades is a beacon of hope in a sea of turbulence.”<sup>1</sup>

Cortese’s beacon of hope is powered by an array of college and university sustainability programs, some of which are described here. It is a bright light that is not easily dismissed, but it must now evolve if it is to guide us through the coming turbulence of environmental change and social turmoil. The reason is both straightforward and stark: we are getting our first real taste of a post-growth world where rapid, sustained economic growth is a thing of the past, and it looks to be a bumpy ride.

Higher education is uniquely positioned to nurture and disseminate the social innovations that we must embrace to make our way to a world free from

**Michael Maniates** is professor of environmental studies at Yale-NUS College in Singapore.

the environmentally destructive imperative of rapid and sustained economic growth. After all, colleges and universities are globally distributed, loosely networked around an expanding agenda of sustainability, and open to new ideas. They command respect. But they also are creatures of the high-growth world from which we must exit: they depend upon economic growth and often promote it, and, as a result, the sustainability efforts that flow from them are often tailored to it. If how we school our children is an important part of the puzzle of human prosperity in a turbulent twenty-first century, few tasks are more important than reorienting higher education toward a post-growth future.

## Thriving in a Post-Growth World?

For almost forty-five years, since the 1972 publication of *The Limits to Growth*, a sliver of the environmental movement has struggled to frame unending economic growth as a core driver of environmental harm. They argue that an ever-expanding economy generates exponentially increasing pressures on environmental systems that will inevitably carry us beyond the “safe operating space” of the planet. From the depletion of forests and fisheries, to ocean plastic pollution and climate change, it is the staggering growth in the volume of materials extracted, products consumed, and waste produced that brings us to the doorstep of an environmental unraveling. Emergent “green” technologies—renewable energy, polyculture agriculture, decarbonized transportation systems, reduced product packaging, and the like—can blunt these impacts, but not for long, since their ameliorative effects are quickly swamped by the environmental penalty of additional growth. To reap lasting benefits from these technological innovations, we need a suite of parallel social innovations to release us from political and economic systems addicted to growth.<sup>2</sup>

These arguments have largely fallen on deaf ears. Rather than viewing economic growth as a source of environmental degradation, most see it as essential to sustainability. To them, an ever-expanding economy drives technological innovation while lifting billions out of environmentally destructive poverty. Growth also means more government revenue, which supports ambitious environmental initiatives at no cost to other programs, thus avoiding nasty political conflict. From this vantage point, growth is the solution, not the problem, so long as it is environmentally sound growth. The job of higher education is to train students and to conduct research that produces the technologies and practices that fuel this growth and turns it from “brown” to “green.”

For the past few years, this pro-growth logic has been under especially fierce assault by scholars and activists. (See Chapter 20.) One is Boston College sociologist Julie Schor, who calls for a “slow consumption” movement inspired by the push toward “slow food” and writes persuasively about a “plentitude economy” divorced from the growth imperative. Another is economist Richard Norgaard, professor emeritus of energy and resources at the University of California at Berkeley, who likens today’s obsession with growth to a modern-day religion built around a disastrous faith. “The economy,” Norgaard suggests, “really is the world’s greatest faith-based organization.” And Gus Speth, former dean of the prestigious Yale School of Forestry and Environmental Studies, recently wrote that “it is time for Americans to move to a post-growth society, where our communities and families are no longer sacrificed for the sake of mere GDP growth.”<sup>3</sup>

The rough outline of social innovations for this post-growth society is clear. As Speth explains: “[W]e already know the types of policies that move us toward a post-growth economy that sustains both human and natural communities . . . . [There is] a long list of public policies that would slow GDP growth, thus sparing the environment, while simultaneously improving social and individual well-being.” Speth’s list, which draws on work by numerous scholars, includes shorter workweeks, longer vacations, and more investment in local, small-scale economic enterprises that prosper by staying small. A shift to worker cooperatives and community banking with a strong commitment to social equity and environmental limits also makes the list. So too do progressive taxation policies, seed grants to promote community entrepreneurship, and guarantees for part-time workers.<sup>4</sup>

Speth’s recommendations could easily be dismissed by those unpersuaded by the post-growth argument, except for one glaring reality: for more than a decade, we have been living in the very low-growth world that many dismiss as impossible, hopelessly dismal, or a retreat to some dark age. “Economic growth,” explains Neil Irwin of the *New York Times*, “has been weaker for longer than it has been in the lifetime of most people on Earth.” Since 2001, U.S. economic growth per capita rose 0.9 percent a year, almost a 60 percent decline from the 2.2 percent annual increase between 1947 and 2000. Economic growth in Western Europe and Japan has been even lower. Because of a number of still-unclear factors—aging populations, slowing population growth, and the intermittency of economically transformative technologies, among others—there is good reason to expect this tepid growth to continue, with some ups and downs, for the foreseeable future. These will be turbulent

times that call for a particular kind of education across colleges and universities. (See Box 16–1.)<sup>5</sup>

It is tempting to double-down on the economic growth machine by mobilizing multiple forces in society, including higher education, to get us back to the time of 2 percent-plus growth per year. In the short run, this might work, but it ultimately will heighten the conflict between exponential economic growth and the integrity of environmental systems upon which human prosperity rests. Much of this growth, after all, delivers ambiguous benefits, and some of it actively undermines human prosperity. In the end, we will still need to deal with the implications of persistent low- or no-growth—the material base of the economy cannot continue to grow exponentially—with an even more despoiled environment on our hands.<sup>6</sup>

More important, pining for the “good old days” of robust growth diverts us from the critical task of adjusting, now, to a low-growth world in ways that are just, equitable, democratic, and environmentally restorative. Even if we believed that a return to muscular growth was just a few years away, wouldn’t we want to explore how to gracefully adapt to our current conditions, if only as an insurance policy against the possibility that the days of high growth are behind us? Few, if any, of the social innovations described by Speth are inherently anti-growth, so there is little to lose by assessing and spreading them as we are able.

For reasons still opaque to economists, slow growth is no longer a fuzzy wish tossed about by environmental scholars. It is here, among us, in our communities, on the ground, affecting our pocketbooks and driving our politics. It is no longer just academic. Rather than treating tepid growth as a problem to be solved (“how do we get the economy growing again?”), higher education can reclaim its beacon of sustainability by attacking an altogether different but immediately relevant question: How do complex human societies thrive—environmentally, equitably, and justly—in a post-growth world?

## Higher Education and the Growth Machine

Under normal circumstances, it would be foolhardy to expect colleges and universities to tackle this question. After all, higher education has long been understood as an engine of economic growth. When educational researchers Anna Valero and John Van Reenan show that universities around the world drive economic growth, their results are publicized by higher education leaders as evidence that the university is doing its job. No one raises an eyebrow when

### Box 16–1. Running the Rapids

The past fifteen years of low economic growth helps us envision a post-growth society. But a sluggish economy is no cause for celebration. Slow growth constrains government spending and drives politically toxic zero-sum thinking, and it can exacerbate social inequality, leading to deep feelings of marginalization. That makes it difficult to marshal the shared commitment critical to a sustainable future. These forces also can engender a yearning for strong leadership, and even authoritarianism, that offers comforting answers to complex questions. Spin grows more important than fact, and elite decision making informed by careful analysis falls into disrepute. All this arises at a moment of environmental instability and human hardship spawned by climate instability, water scarcity, collapsing fisheries, and stark economic inequality.

It is going to be a bumpy ride to a post-growth future of prosperity and justice. Navigating this turbulence requires college and university students that are imbued with a special set of skills and temperaments: a steely equanimity, adept at conflict management, familiar with notions of social change, well versed in the science of sustainability with a rootedness in values of justice and community, and more at home in the metaphorical turbulence of whitewater rafting than the placid predictability of canoeing on a gentle summer's day.

Alas, these are not the sort of people that higher education typically graduates. Most institutions focus on producing experts who will command the respect of policy makers and citizens by virtue of their training. They are canoeists, poorly acclimated to a world of surprise, unpredictability, and opportunity.

Teaching for this coming turbulence does not mean skimping on analytic rigor. But it does require more than getting the facts right in the classroom. Students must become practiced in coping with ambiguity and diffusing conflict around contentious environmental issues, drawing with ease on a healthy mix of qualitative and quantitative insight. They will be well served by their instructors if they come to understand themselves not as “I have the right answer” elites, ready to assume their place in the halls (or cubicles) of power, but as “knowledge brokers” tasked with creating and disseminating knowledge in ways that privilege values of precaution, systems thinking, and advocacy for the defenseless—typically the poor, the environment, and future generations.

Cultivating these orientations calls for a special breed of professor, one that is open to curating student experiences that foster boldness and humility. Fortunately, professors like these exist, and they are no longer restricted to institutions such as College of the Atlantic or Prescott College, both exemplars of sustainability. Higher education is changing, and for the better, but it must quicken its pace if students are to confidently run the rapids to come.

*Source: See endnote 5.*

administrators such as Elisa Stephens, president of the Arts Academy in San Francisco, assert that “higher education, job creation, and economic growth” are inextricably linked. History explains much. In the United States, public universities were launched in the nineteenth century to innovate agricultural and engineering practices in service of economic growth. (See Chapters 21 and 22.) The contemporary incarnation of European universities follows a

similar path. It is by design, not by happenstance, that higher education in its modern form is a core component of “the great acceleration”—the exponential increase in production, consumption, and environmental assault since 1950.<sup>7</sup>

Higher education’s reading of sustainability reflects this marriage to growth. Despite lofty and often genuine commitments to planetary health by many colleges and universities, the bulk of their sustainability initiatives center on four practical goals:

increasing efficiency, reducing waste, decarbonizing energy use where affordable, and improving the institution’s environmental image. Programs that trim energy use, water consumption, and waste production typically take center stage, and for good reason: they generate positive publicity and cultivate student goodwill while producing financial savings. All three then can be redirected to support the overall growth of the institution.<sup>8</sup>

This pattern surfaces in UI Green Metric’s “World University Ranking,” which assesses campuses on waste generation, water use, carbon footprint, transportation choices, infrastructure innovation, and a catch-all “education” category. The top institutions are technologically innovative, are sensitive to the sourcing of food and energy, and demonstrate how to do more with less, so that they can then grow in other ways. The same largely holds true for the Association for the Advancement of Sustainability in Higher Education (AASHE), which by July 2016 had analyzed information from almost four hundred colleges and universities in nine countries. For AASHE, the best colleges and universities are becoming smarter in their resource use and are

Dave Brenner, SNPE



Students at the University of Michigan take part in a “Waste Audit & Education Day” sponsored by the Ross School of Business.

rewarding faculty for helping their students and the larger world do the same. They are good green consumers at an all-campus level, much like individual households that try to “save the planet” by buying recycled products or using renewable energy, and sharing their experiences with their neighbors.<sup>9</sup>

These accomplishments are not trivial. Twenty years ago, most observers would have dismissed them as impossible. They reveal remarkable flexibility and innovation, proving that higher education can indeed become a “beacon of hope in a turbulent world.”

But with few exceptions, these initiatives accept and often facilitate a social logic of unrestrained economic growth. Recycling initiatives on campus marginalize questions about the growth of disposables in industrial society; instead, recycling is often experienced as a reward for consumption. Composting of food waste is admirable, but it may sideline questions about the drivers of waste or the ecological affordability of meat. Energy- and water-efficiency savings are redirected to facilitate growth in other areas of campus operations. A much-needed shift to decarbonized energy sources skirts more fundamental questions of how much energy is enough. And divestment from fossil fuel providers, a new and important feature of campus sustainability (see Box 16–2), nevertheless normalizes a broader logic of growth-driven investments in private firms that themselves are wellsprings of growth.<sup>10</sup>

By accepting growth as given, higher education undercuts its considerable power to drive lasting sustainability. Consider, for example, the common scenario where funds generated by energy-efficiency improvements in academic buildings are redirected to faculty research. Professors are delighted, as is the admissions office, which can trumpet the greening of the university. But the overall carbon footprint of the campus grows as happy faculty fly to more international conferences to share their research with colleagues. Expand this example, and it becomes apparent that, when growth is king, the environmental benefits of sustainability initiatives in one sector of the economy can be swamped by growth in another. This is not an argument against energy efficiency or other smart technological innovations; it is a plea to combine the familiar focus on eco-efficiency and decarbonization with searching initiatives for a post-growth world.

Now is the moment for higher education to mobilize around this plea, but it will not be easy. Colleges and universities are not just agents of economic growth; they also depend upon it, which makes it doubly hard for them to envision a post-growth world. Bigger budgets, new buildings, better-paid faculty, an expanding student body—all are markers of institutional success,

### Box 16–2. Student Activism and Training Within the Fossil Fuel Divestment Movement

Student organizers on college and university campuses have begun pushing—hard—for institutional endowments and other funds to be stripped clean of investments that support the fossil fuel industry.

Today, a movement that began in the United States is finding global reach. The effort also has moved beyond higher education to challenge other institutions to consider their role in supporting fossil fuel extraction. By the end of 2016, more than six hundred institutions, including seventy-five colleges and universities, dozens of religious institutions, over a hundred foundations, and well over fifty municipalities, together representing more than \$3.4 trillion in assets, had committed to some level of divestment from fossil fuels.

Although unlikely to make a big dent in company bottom lines, the divestment push ratchets up the moral stakes. The campaign raises hard questions for fossil fuel companies and for the investments and investors that support their operations.

More than this, the fossil fuel divestment effort has proved an extraordinary training ground for a new breed of student climate activists. The campaign has discovered a way to take the intractable challenge of climate change and to direct the energies of students toward direct, creative forms of action against an identifiable target. Students are learning what it takes to move stubborn institutions in positive directions, by employing insider/outsider campaigning strategies, by embracing a climate justice framing that broadens the set of constituencies interested in working for divestment, and by radicalizing the very notion of campus sustainability.

The student leaders of the divestment push are suggesting that for a campus to carry the label “sustainable,” it must do more than commit to green buildings and on-campus composting. Instead, these students are saying, a truly sustainable campus is one that contributes to tackling rather than perpetuating the world’s most critical problems.

Colleges and universities remain our principal institutions for post-secondary education and for the creation of new knowledge. Traditional forms of teaching and learning matter for the transition to sustainability. The fossil fuel divestment campaign shows, however, that some of the most important learning is happening outside the walls of classrooms, as students define for themselves the opportunities that exist in taking up the climate challenge.

—*Eve Bratman, Franklin & Marshall College*

—*Kate Brunette, Raise Up WA*

—*Simon Nicholson, American University*

—*Deirdre Shelly, 350.org*

Source: See endnote 10.

---

and all become difficult to achieve amid slow economic growth and pinched public funding.

It is never clear, moreover, how much of each is enough given the spiraling “arms race” in higher education, where new facilities and programs at one university must be matched by other institutions to avoid losing ground in the battle for good ratings, strong students, and top faculty. Cornell University economist Robert Frank captures it perfectly when he notes that “universities face increased pressure to pay higher salaries to star faculty; to spend more on marketing, student services, and amenities; and to offer ever-more generous financial aid to top-ranked students from high-income families. It is little wonder, then, that their financial situations have grown more precarious.”<sup>11</sup>

Happily, we do not live under normal circumstances. Our current bout of low growth creates opportunities to reorient the ivory tower toward a post-growth world. Smart institutions will not bet the farm on a low-growth future—that would run counter to the DNA of higher education. But with prodding, colleges and universities will become increasingly receptive to initiatives that offer a Plan B for their own financial struggles, and for society as a whole, should low growth become the norm. If pursued successfully, these initiatives will make human prosperity in a post-growth world more realistic, more tangible, and—one hopes—more desirable. And this can drive momentum for change.

## Building Momentum

Seeds of this momentum are now sprouting as colleges and universities become more comfortable with resilience as a guiding strategic concept. Notions of resilience—the capacity to absorb shock and bounce back, perhaps better than before—have been prominent in higher education since the attacks of September 11, 2001. Originally preoccupied with how colleges and universities might recover from terrorist attacks, disruptions to information technology services, or natural disasters, resilience thinking among campus administrators has gradually expanded to include disruptions from climate change. In May 2014, Boston-based Second Nature—a nonprofit organization collaborating with colleges and universities on climate issues—sharpened this focus on climate by launching the Alliance for Resilient Campuses (ARC). Still in its infancy, ARC helps colleges and universities formulate programs that respond proactively to the effects of climate change on their own operations and the surrounding community.<sup>12</sup>

The growing prominence of resilience within higher education, reflected in projects like ARC, offers a striking opportunity to nudge colleges and universities toward a post-growth mindset. That is because campus and community resilience, especially in response to climate change, is not primarily about economic growth or enhancing an institution's reputation. Focusing on resilience means zeroing in on noneconomic foundations of human prosperity: social capital, mutual trust, strong community, loving and respectful relationships, local knowledge, community self-reliance, and limited inequality. As colleges and universities cultivate these elements in their own operations and within their neighboring communities, they are laying the groundwork for human flourishing in a post-growth world.

Those associated with higher education—students, staff, faculty, alumni, administrators, and funders—would thus do well to promote climate resilience in campus communities known to them, and then to encourage the school to infuse resilience thinking into existing environmental initiatives. Together, they could steer the sustainability conversation away from asking “how can we be more efficient (so that, perhaps, we can keep growing)?” and toward “how can we enrich human connections and a strong sense of collective self-reliance to reduce our impact on the planet (in ways that make us more resilient and, coincidentally, help us thrive in a post-growth world)?”

As interest in resilience begins to supplant a campus focus on eco-efficiency, it will become easier to draw colleges and universities into developing, testing, and disseminating the policies and norms we need for a post-growth world. One place to begin is with campus-sponsored experiments in economic reorganization, especially around locally based worker and community cooperatives. In the future, these enterprises will need to be the norm, not the exception. They deliver human prosperity and environmental sustainability without an intrinsic need to grow, and they enjoy citizen support across the political spectrum—an important quality in these politically fractured times. Higher education commands the expertise, capital, and experience to assess and disseminate several variations of these business models. Lasting sustainability demands nothing less.<sup>13</sup>

Inspiration abounds. Take, for instance, the Evergreen Cooperative Initiative in Cleveland, Ohio, which enjoys support from Case Western Reserve University. Modeled after the eighty-five thousand person Mondragon Cooperative in Spain, Evergreen includes a greenhouse, a large-scale environmentally advanced laundry, and a solar panel and weatherization company. It is cooperatively governed, hews to core notions of sustainability, and provides good jobs

for some of the city's most challenged neighborhoods. Community interventions such as these appear to be on the uptick: the Democracy Collaborative and the Responsible Endowments Coalition report that 16 percent of U.S. colleges and universities invest locally, although few with the ambition and effect demonstrated by Case Western Reserve. However, far more must be done in the domain of community investment.<sup>14</sup>

Retooling older forms of economic organization for the twenty-first century is one way for higher education to respond effectively to today's slow growth while sliding us toward a future post-growth world. Another is to aggressively model necessary changes in work life. Scholars agree that workweek reductions are central to any transition to a post-growth society. The standard forty-hour workweek adopted in the United States in 1940 is not etched in stone, just like the hundred-hour workweek in 1890 was not sacred either. At low or no economic growth, we will all need to work less—to spread the work around to ensure an acceptable degree of income distribution—while finding satisfying ways of swapping leisure for consumption.<sup>15</sup>

Corporations already are experimenting with workweek modifications. Amazon.com, for instance, is piloting a thirty-hour workweek for select employees, who will receive full benefits and a 75 percent salary. Given the positive influence of shorter workweeks on employee productivity, retention, and absenteeism, this makes good business sense. But we cannot rely solely on organizations guided by profit to create and disseminate workplace arrangements for the future. Higher education must pitch in, too, with innovative workweek programs of its own that look beyond next quarter's balance sheet. These programs would push the frontiers of campus sustainability far more than another campus community garden or array of solar panels.<sup>16</sup>



Horticulture Group

The Evergreen Cooperative Institute in Cleveland, Ohio, includes Green City Growers, a 1.3 hectare hydroponic greenhouse filled with leafy greens.

Universities and colleges also can continue to pioneer and spread consumption-reducing “choice edits” that are critical to a post-growth future. Chatham University in Pittsburgh, Pennsylvania, has banned the sale of bottled water on its sprawling campus, installed filtered water dispensers, and distributed reusable water bottles, helping students save money and modeling a needed shift from recycling to reuse. Like many schools, Yale-NUS College in Singapore has done away with trays in its campus dining rooms and is preparing a shift to smaller plate sizes, moves that can cut food waste up to 30 percent. Additionally, an electricity meter in every dorm room means that students receive individual bills for their air conditioning use, which prompts them to cool their rooms only during the hottest hours of the day, or not at all. Suddenly, it is not so cool to use air conditioning. At the University of Wisconsin-Madison, bicycles are the primary mode of transportation for almost one-quarter of students, in part because of the university’s support of the city’s bike sharing program. This helps make biking feel like the natural thing to do in Madison, which can lead to more bikers, stronger support for biking, and falling demand for other economically and environmentally costly transportation options.<sup>17</sup>

## Overcoming Obstacles

If these initiatives—cooperative businesses, worktime reductions, and choice editing, all supported by resilience thinking—are to thrive within the halls of academia, they must resonate with the core research and teaching missions of the university. That will be difficult if these measures are understood as fundamentally oppositional to growth, corporate capitalism, or material acquisition. Higher education, after all, identifies as an engine of growth, and the deep insinuation of corporate interests in the modern university is well documented.<sup>18</sup>

Fortunately for academic researchers, today’s lukewarm economic growth offers safe haven. Inquiry into post-growth alternative work and business models, and other post-growth policies, can be framed as applied research motivated by our current economic doldrums: it is all about searching for solutions to today’s problems rather than arguing for low growth later. Characterizing research as solution-driven also could free up needed funding, which is key, since less research money exists for post-growth research than for studying how to address pollutants from an expanding economy. One notion that is attractive for its symmetry is to divert all savings accrued from

campus eco-efficiency projects to faculty research on the transition to a post-growth world.

It is more difficult to address conflicts with the teaching mission of environmental studies and sustainability science. Do these programs recruit students, generate research money, confer prestige on the institution (by impressing business and government elites), and situate students for good, well-paying corporate jobs or entry into prestigious technocratic graduate programs? If so, then all is well. But programs that question the underlying rationale of growth-centered economies often are mismatched to these imperatives of higher education. These programs, vital to our transition to a post-growth world, are especially vulnerable to being labeled as “anti-corporate,” “insufficiently scientific,” or “too ideological,” and then marginalized, as if faith in the perpetual growth of industrial economies is somehow objective or reasonable.

One piece of a solution is to connect these programs to external networks of credibility and prestige. A project like the Ecosphere Studies initiative (see Box 16–3) thus becomes important not just for the radical curriculum that it is producing, but also for the impressive credentials of its participants and the wide dissemination of results. When highly respected academics develop hard-hitting curricula and build networks around their delivery, it is easier to view like-minded curricula as “state of the art” and “cutting edge” rather than “overly normative” or “unscientific.” That creates the space that innovative programs need to work and thrive.<sup>19</sup>

And let us not forget AASHE and UI Green Metric, as well as groups like The Sierra Club that also publish environmental rankings. They can help by highlighting colleges and universities that rigorously explore post-growth options for the future. Schools no longer should be lauded for making cost-effective investments in water, energy, and waste efficiencies. Nor should they receive high praise for moving to renewable energy when it is increasingly affordable to do so. To paraphrase Robert Reich, professor at the University of California at Berkeley and former U.S. Secretary of Labor, that is not socially responsible behavior—these days, it is just good business. The highest marks and the best publicity must be reserved for those colleges and universities at the edge of social innovation for the planet.<sup>20</sup>

The next frontier of sustainability in higher education, now at our doorstep, revolves around charting new paths to a post-growth future in which we all would want to live. With fifteen years of low growth behind us, higher education is finally starting to move in this direction, despite its affections for a high-growth world. Now all it needs is a good strong push.

### Box 16–3. Reframing Higher Education Around Ecosphere Studies

The seeds of an initiative to develop a transformative curriculum for higher education have been sown by The Land Institute in Kansas and its cofounder, Wes Jackson, a plant geneticist and international leader in sustainable agriculture. The Institute is best known for developing perennial grains to grow in polycultures, to help shift food production away from industrialized agriculture’s unsustainable reliance on monoculture annual grains, such as wheat.

Now Jackson and the Institute have assembled an inaugural core faculty of twelve educators and scientists from eleven colleges and universities and The Nature Institute, a nonprofit organization, to design a curriculum that transcends disciplinary boundaries while drawing from the different sciences, philosophy, history, and the arts. The goal: to propose a comprehensively holistic approach to radically realign teaching, learning, and research around the theme of “ecosphere studies.” Reorganizing around a vision of the living world itself as the ultimate educational authority, collaborators believe, is a remedy for higher education’s current core contributions to propping up extractive economies. Such economies threaten ecosystems around the world and even the super-ecosystem—what Jackson calls our planet’s “ecosphere”—the entire global web of relationships that comprise life’s only home.

In Jackson’s view, modern agriculture lies at the heart of the problem, and a radical new way of perceiving and orchestrating our relations within the ecosphere is essential. The Ecosphere Studies initiative will explore how to make “nature as measure” the new paradigm for human action and specifically in connection with feeding the growing world population. That means consciously striving to fit agriculture and all other activities into the realities of natural systems, rather than assuming that nature’s limits can be conquered or exploited.

After an exploratory conference with forty scholars in 2015, the core faculty and invited guests met in 2016 to plan further for such a new curriculum. In the coming years, the focus will be on developing teaching materials that are both radical and relevant. Some core faculty members are already testing new courses and methods on their own campuses or revising existing courses. Their practical experiences will inform the initiative as it moves forward.

—*Craig Holdrege, director of The Nature Institute and core faculty member of the Ecosphere Studies initiative*

Source: See endnote 19.

---

for youth.org/storage/advfy/documents/adolescent\_sexual\_health\_in\_europe\_and\_the\_united\_states.pdf; World Bank, “Adolescent Fertility Rate (Births per 1,000 Women 15–29),” data.worldbank.org/indicator/SP.ADO.TFRT.

## Chapter 16. Suddenly More Than Academic: Higher Education for a Post-Growth World

1. Anthony Cortese, “Afterword,” in Mitchell Thomashow, *The Nine Elements of a Sustainable Campus* (Cambridge, MA: The MIT Press, 2014), 212.
2. Will Steffen et al., “Planetary Boundaries: Guiding Human Development on a Changing Planet,” *Science* 347, no. 6223 (January 15, 2015): 736–46.
3. Juliet Schor, “What Is Sustainable Consumption,” presentation at No Growth: Slower by Design, Not Disaster Roundtable, York University, Toronto, Canada, May 2010; Juliet Schor, *True Wealth: How and Why Millions of Americans Are Creating a Time-Rich, Ecologically Light, Small-Scale, High-Satisfaction Economy* (New York: Penguin, 2011); Richard Norgaard, “The Church of Economism and Its Discontents,” *The Great Transition Network*, December 2015; Gus Speth, “Manifesto for a Post-Growth Economy,” *Yes! Magazine*, September 19, 2012.
4. Speth, “Manifesto for a Post-Growth Economy.”
5. Neil Irwin, “A Low Growth World: One Key to Persistent Economic Anxiety,” *New York Times*, August 7, 2016, A1. Box 16–1 from the following sources: Richard Dobbs et al., *Poorer Than Their Parents? A New Perspective on Income Inequality* (McKinsey Global Institute, July 2016); Robinson Meyer, “Donald Trump Is the First Demagogue of the Anthropocene,” *The Atlantic*, October 19, 2016; Christopher Hayes, *Twilight of the Elites: America After Meritocracy* (New York: Broadway Books, 2013); Michael Maniates, “Teaching for Turbulence,” in Worldwatch Institute, *State of the World 2013: Is Sustainability Still Possible?* (Washington, DC: Island Press, 2013), 255–68; Karen Litfin, “Framing Science: Precautionary Discourse and the Ozone Treaties,” *Millennium: Journal of International Studies* 24, no. 2 (1995): 251–77.
6. Robert Costanza et al., “Time to Leave GDP Behind,” *Nature* 505 (January 16, 2014): 283–85.
7. John Gill, “Universities and Economic Growth Go Together,” *Times Higher Education*, March 31, 2016; Elisa Stephens, “Higher Education and America’s Economic Growth,” *Huffington Post*, May 25, 2011; Johan Rockström and Mattias Klum, *Big World, Small Planet: Abundance Within Planetary Boundaries* (New Haven, CT: Yale University Press, 2015).
8. Kevin Krizek et al., “Higher Education’s Sustainability Imperative: How to Practically Respond?” *International Journal of Sustainability in Higher Education* 13, no. 1 (2012): 19–33; Nancy Kurland, “Evolution of a Campus Sustainability Network: A Case Study in Organizational Change,” *International Journal of Sustainability in Higher Education* 12, no. 4 (2011): 395–429.
9. Association for the Advancement of Sustainability in Higher Education (AASHE), *Sustainable Campus Index: 2016 Top Performers and Highlights* (Philadelphia, PA: October 2016); UI Green Metric website, <http://greenmetric.ui.ac.id>; AASHE website, [www.aashe.org](http://www.aashe.org).
10. Box 16–2 based on Eve Bratman et al., “Justice Is the Goal: Divestment as Climate Change Resistance,” *Journal of Environmental Studies and Sciences* 6, no. 4 (2016): 1–14. See also Fossil Free, “Divestment Commitments,” [www.GoFossilFree.org/commitments](http://www.GoFossilFree.org/commitments).
11. Robert Frank, *Are Arms Races in Higher Education a Problem?* (Boulder, CO: EDUCAUSE Center for Analysis and Research (ECAR), 2004).
12. Ronald Yanosky, *Shelter from the Storm: IT and Business Continuity in Higher Education* (Boulder, CO: ECAR, 2007); Elizabeth and Chris Smith, “Integrating Resilience Planning into University Campus Planning: Measuring Risks and Leveraging Opportunities,” *Planning for Higher Education* 44, no. 1 (2015): 10–19; Ann Waple,

“How Higher Ed Works with Communities to Build Resilience,” Greenbiz.org, August 11, 2014; Second Nature, “Second Nature Announces College Leadership in Resilience; Alliance for Resilient Campuses, Partnership with Cities,” press release (Boston, MA: May 5, 2014).

13. Gar Alperovitz, “The Political-Economic Foundations of a Sustainable System,” in Worldwatch Institute, *State of the World 2014: Governing for Sustainability* (Washington, DC: Island Press, 2013), 191–202; Marjorie Kelly, *Owning Our Future: The Emergent Ownership Revolution* (San Francisco, CA: Berrett-Koehler Publishers, 2012).

14. Joe Guinan, Sarah McKinley, and Benzamin Yi, *Raising Student Voices: Student Action for University Community Investment* (Brooklyn, NY and Takoma Park, MD: Responsible Endowments Coalition and The Democracy Collaborative, 2013).

15. Peter Victor, *Managing Without Growth: Slower by Design, Not Disaster* (Cheltenham, U.K.: Edward Elgar Publishing, 2008); Tim Jackson, *Prosperity Without Growth: Economics for a Finite Planet* (Abingdon, Oxon, U.K.: Earthscan/Routledge, 2011); Schor, *True Wealth*; Shana Lebowitz, “Here’s How the 40-hour Workweek Became the Standard in America,” *Business Insider*, October 24, 2015.

16. Rebecca Greenfield, “The Six-Hour Workday Works in Europe. What About America?” *Bloomberg*, May 10, 2016; Isabel Sawhill, “Is It Time for a Shorter Workweek?” *Washington Post*, May 13, 2016.

17. Michael Maniates, “Editing Out Unsustainable Behavior,” in Worldwatch Institute, *State of the World 2010: Transforming Cultures* (New York: W. W. Norton & Company, 2010), 119–26; Lindsey Ramsey, “Sustainability in Practice: Bottled Water Bans Gain Traction,” FoodService Director, May 9, 2012; Yingchen Kwok et al., *Yale-NUS College Dining Hall Report 2015* (Singapore: Yale-NUS College, 2016); Tom Van Heeke, Elise Sullivan, and Phineas Baxandall, *A New Course: How Innovative University Programs Are Reducing Driving on Campus and Creating New Models for Transportation* (Washington, DC: U.S. PIRG Education Fund, February 2014).

18. Jennifer Washburn, *University, Inc.: The Corporate Corruption of Higher Education* (New York: Basic Books, 2008).

19. Box 16–3 from the following sources: The Land Institute website, <https://landinstitute.org>; Wes Jackson, “The Serious Challenge of Our Time,” *Resilience*, May 31, 2013; “Paradigm Shift U: Talk of an Education and World-view Called Ecospheric, in Results If Not in Name,” *Land Report* (The Land Institute) 112 (Summer 2015).

20. Robert Reich, *Supercapitalism: The Transformation of Business, Democracy, and Everyday Life* (New York: Vintage Books, 2008).

## Chapter 17. Bringing the Classroom Back to Life

1. Swaraj University, “Year 1,” [www.swarajuniversity.org/year-wise-flow.html](http://www.swarajuniversity.org/year-wise-flow.html).

2. Deep Time Walk website, <http://deeptimewalk.org>.

3. “Free Home University,” [www.facebook.com/freehomeuni/](http://www.facebook.com/freehomeuni/).

4. Stephen Sterling, “Sustainable Education: Towards a Deep Learning Response to Unsustainability,” *Policy and Practice*, no. 6 (Spring 2008): 64.

5. Judi Marshall, Gill Coleman, and Peter Reason, eds., *Leadership for Sustainability: An Action Research Approach* (Sheffield, U.K.: Greenleaf Publishing, 2011), 14; Donna Trueit, ed., *Pragmatism, Post-Modernism and Complexity Theory* (London: Routledge, 2012), 197–98; Richard Buchanan, “Wicked Problems in Design Thinking,” *Design Issues* 8, no. 2 (Spring 1992): 5–21.

6. Peter Reason and Hilary Bradbury, eds., *Handbook of Action Research: Participative Inquiry and Practice* (London: Sage, 2015).

7. Allan Kaplan and Sue Davidoff, *A Delicate Activism: A Radical Approach to Change* (Johannesburg: Proteus

STATE OF THE WORLD

*EarthEd*

*Rethinking Education on a Changing Planet*

**THE WORLDWATCH INSTITUTE**, in its flagship publication, analyzes how we can equip students with the skills to navigate the turbulent century ahead. With global environmental changes locked into our future, what we teach must evolve. All education will need to be environmental education, teaching students to be ecoliterate, deep-thinking, and deeply moral leaders, ready to face unprecedented challenges. *EarthEd* explores traditional areas of environmental education such as nature-based learning and systems thinking, as well as new essential topics including social-emotional learning and the importance of play. This latest edition of *State of the World* examines how, by rethinking education, people worldwide can better adapt to a rapidly changing planet.

“In our shared time on Earth, we must create a new Earth Education. We must help future generations learn the skills necessary to survive the rapid changes ahead—including moral leadership and conflict resolution—and engender a deep connection with other species, as well as our own. This book, and the Earth Education it defines and illuminates, points us toward that new path.”

—**RICHARD LOUV**, author of *Last Child in the Woods*, *The Nature Principle*, and *Vitamin N*

“Perilous times call for smart, hopeful, and vital education, grounded in deep understanding of how the world works and our place in it. *EarthEd* is a reason to take heart, reminding us that we can learn from educators around the world who are drawing from traditional wisdom, new discoveries about learning, and innovative strategies to prepare and inspire students to become effective actors in our changing world.”

—**ZENOBIA BARLOW**, Cofounder and Executive Director of the Center for Ecoliteracy

“The authors in this volume are among the leaders at the forefront of environmental education. The stories, research, and insight that follow will inspire by the examples, models, and sheer dedication and perseverance.”

—**DAVID W. ORR**, Paul Sears Distinguished Professor Emeritus and Counselor to the President, Oberlin College

Cover design: Bruce Gore

Cover illustration: © Kydriashka | Dreamstime.com



Washington | Covelo | London

[www.islandpress.org](http://www.islandpress.org)

All Island Press books are printed on recycled, acid-free paper.

ISBN 13: 978-1-61091-842-8

ISBN 10: 1-61091-842-8

