

3-2013

The Sustainability Generation: Why Young People Hold the Key to a Better Future

Leidy Klotz

Clemson University, leidyk@clemson.edu

Follow this and additional works at: https://tigerprints.clemson.edu/civileng_pubs

 Part of the [Civil and Environmental Engineering Commons](#)

Recommended Citation

Please use publisher's recommended citation. <http://thesolutionsjournal.com/node/2441>.

This Article is brought to you for free and open access by the Glenn Department of Civil Engineering at TigerPrints. It has been accepted for inclusion in Publications by an authorized administrator of TigerPrints. For more information, please contact kokeefe@clemson.edu.



Solutions

For a sustainable and desirable future

Idea Lab

Features

Perspectives

Visionaries

Your Solutions

Mar 2013

The Sustainability Generation: Why Young People Hold the Key to a Better Future

By [Leidy Klotz](#)



Aih/Flickr

There is a reason that children are better at attaching candles to walls, and it has to do with sustainability.

the knees.

Cortland is my 14-year-old friend and neighbor, a kid in the top 10 percent of his class, but also a pretty typical middle-class American teenager. He can eat an entire pizza in one sitting. He can be a perfect son then drive his parents crazy within 15 minutes. When I asked Cortland his vision of a better future, he wrote:

Roads are for walking and biking – sidewalks are for cars. 1 car per family with 100+ miles per gallon. High paying job = building homes for the needy (ex. Africa and homeless people). No more big oil companies. More charity foundations. Healthy food would be more accessible and cheaper than junk food. More people would be outside to have fun. Government would work to help the earth and people, not themselves. Money wouldn't be the #1 thing people work for – people work to help others.

I wish I thought we were headed toward the world Cortland imagines, but illusions of progress disappear under scrutiny. Of 5,000 recently studied products claiming to be “green,” over 95 percent misled consumers.¹ In the last 50 years, energy consumption and the climate changing carbon dioxide emissions that go with it have roughly tripled.² A 1908 Model T was more efficient than the most popular vehicle 100 years later, the Ford Explorer.³ The Toyota Prius is an improvement, but

In a standard test of reasoning, you are given a candle, a box of thumbtacks, and a book of matches. Your task is to attach the candle to the wall so that it does not drip onto the table below.

I thought about how to melt the wax and use it to stick the candle to the wall. What would you do?

This challenge is designed to reveal functional fixedness, mental blocks against using objects in a new way. The experience that comes with age is a disadvantage here because it leads to thinking of the normal use of the box as a container for tacks. People who have never seen a tack box are less likely to have that preconception and are therefore more likely to see that the box can be emptied, tacked to the wall, and used as a support for the candle. This is why 5-year-olds do better than adults on the test. It's also why, as a first-grader, my little brother decided to avoid clothes shopping by wearing his sweatpants backwards once there were holes in

does not address an even bigger challenge, the expected doubling in the number of automobiles by 2030.⁴ The story of building efficiency follows a similar arc. Over 23,000 people attended the Green Building Council's annual conference in 2010. More than 1.5 billion square feet of commercial building space has earned certification under the Leadership in Energy and Environmental Design (LEED) rating system. But these "green" buildings, on average, use more energy per square foot than buildings built 10, 50, and 100 years ago.⁵

Clearly, a better future is impossible if we keep doing what we've done in the past. We have to do something different, perhaps something in the mold of Cortland's vision: He has cars on the sidewalk and people in the streets. His notion of progress—"people work to help others," "more people would be outside to have fun"—is based on what makes people happy. So how do we turn that notion into a reality?

The Sustainability Generation

As a relatively young engineering professor, I find myself between two generations. On one side are the decision-makers, "The Ruling Generation," which often cannot reimagine the tack box as a candleholder. We shouldn't be surprised by their lack of serious action toward the future Cortland envisions. The average age of a *new* CEO is over 50, and more than 200 members of the U.S. Congress are old enough to qualify for Social Security benefits.

On the other side are young people, from Cortland to my college students, who I believe embody our best chance for the rapid, fundamental changes needed to create a better future. I call them the "Sustainability Generation"—the next Bill Gates and Steve Jobs, who were too young to rent cars when they founded Microsoft and Apple. Or the next Marie Curie, who did much of her groundbreaking science research in her twenties.

Cortland has a kindred spirit in Jigme Singye Wangchuck, the king of Bhutan who was 17-years old when he made gross national happiness a major indicator of progress for his country. Four decades later, when world happiness was measured, people in Bhutan were happier, on average, than those in any neighboring country and in countries, including France and Germany, with much higher per capita gross domestic products (GDP).⁶

Happiness is not part of our economic accounting. When our GDP is tallied up—our common proxy for progress—all spending counts, even if it's on wars, jail construction, and speeding tickets (through which I contribute about \$200 annually to GDP). What's more, it does not measure some of our most cherished "possessions," such as trees filtering the air we breathe and the vitality of our communities. Just as Enron was leaving costs off of their books, we are leaving environmental and social costs off ours. But we don't change.



University of Western Sydney, Communication Arts Students

The youth movements of today—the "Sustainability Generation"—embody our best chance for the rapid, fundamental changes needed to create a better future, says the author.

Throughout history, change on the scale we need has come from those who haven't been socialized to the status quo. Isaac Newton was 23 when he saw the apple fall from the tree. Albert Einstein had his most groundbreaking year at 26, the same age at which Martin Luther King, Jr. led the Montgomery bus boycott. Harriet Tubman started the Underground

Railroad at 28. Charles Darwin was just 29 when he first conceived his theory of natural selection. Thomas Jefferson wrote the Declaration of Independence at 33, and Benazir Bhutto became the first woman Prime Minister of a Muslim country at 35.

Though these examples are exceptional, psychological and neurological studies show that young people are geared to make radical change. The capacity to solve novel problems, known as fluid intelligence, is believed to be a separate neural and mental system that peaks in young adulthood and declines with age, just like our respiratory and immune systems.⁷ Cognitive processes—how the brain makes sense of information from the outside world—begin declining in our twenties, when memory and problem-solving abilities also stop growing. Reasoning ability peaks at 28;⁸ even the youngest possible president of the U.S. would be seven years beyond peak reasoning ability.

We waste the potential of the Sustainability Generation when they don't have opportunities to effect positive change. Today's young people were read to in the womb, attended select preschools, and received toys designed to promote their development. They were supported with the best elementary schools, out-of-school tutoring, educational camps, and incentives for doing well on standardized tests. They've had help finding the right college, and the benefit of remortgaged homes and retirement savings to send them there. Then, just when they graduate from college, ready to repay the investment in their development, young people hit a brick wall. They can fight in wars before they can run for most elected offices. The unemployment rate for 20- to 24-year-olds is twice as high as it is for those over 55.⁹

Positions of power and influence are overwhelmingly concentrated among the Ruling Generation. But our sustainability challenges require a new perspective, unspoiled by functional fixedness, status-quo bias, and the "because that's the way we've always done it" mentality.¹⁰ Why can't more people telecommute to work to avoid the fuel consumption, time, safety hazards, and stress associated with driving? Why do dress codes require long sleeves and pants, which, in turn, mean we spend more energy and money on air conditioning? New ideas can be as simple as the elimination of old ones.

Bright spots are everywhere, but they must be expanded. Members of Powershift, which fights for a clean energy future, are occupying city centers and college presidents' offices to protest expanded use of especially damaging fossil fuels like tar-sands and coal. They are also promoting positive change by lobbying and participating in international climate conferences. Over 10,000 youth leaders attended Powershift's two-day bootcamp in 2011. The university program Engineers Without Borders, which brings sustainable solutions to developing countries, has over 10,000 members in nearly 200 chapters on U.S. campuses. NETIMPACT, a group of students using the power of business to create a more sustainable world, has over 20,000 students in over 250 campus chapters.

The list goes on. Frat boys at exclusive private schools like the University of Chicago and large public schools like the University of Maryland are planning parties that encourage reuse, recycling, and carpooling. Faith-based groups are also on board. The Catholic Coalition on Climate Change funded and published a toolkit for Catholic universities and colleges pursuing sustainability.

Though they haven't reached the scale needed, these examples offer hope. It took less than 50 years to go from the Wright brothers' first flight on the sand dunes of Kitty Hawk to a jet traveling at the speed of sound. And just as we scale-up technology, we're also capable of escalating new mindsets. In less than three decades, we progressed from a time when homosexuality was officially classified as a mental disorder to the first state recognizing civil unions between same sex couples.

A Call to Cooperative Action

Of course, just being young and confident is not enough. Ignorance and initiative are a dangerous combination. Einstein, Jefferson, King, Tubman, and others all combined youth with a tireless work ethic. As part of the Sustainability Generation, do the same. Balance action with learning. Develop your broad systems-thinking skills. But don't put off the action. Pursue opportunities for hands-on practice on your campus, in your community, and beyond. Once you have a plan, act with confidence. Whether you change the world or fail spectacularly, you will unsettle the broken status quo.

Members of the Ruling Generation must help by identifying pathways for the best young people to quickly reach positions of influence. In the time it takes a college student to reach a traditional leadership position in industry, both economic and population growth might make our sustainability challenges insurmountable. Fellowship and internship programs are one step, but not nearly enough if there is no follow-up in the "real-world." Young people need to be in genuine positions of



Payton Chung

"Don't put off action," says the author. "Whether you change the world or fail spectacularly, you will unsettle the broken status quo." Here, citizens—mostly youth—protest the Keystone XL pipeline.

influence, with actual responsibilities and budgets. Some industries, like Silicon Valley, are better than others at this: the project manager for the iPhone was in his twenties, and that worked out pretty well. At the other end of the spectrum are unspoken age requirements for leadership positions in more traditional industries, and explicit age requirements for elected positions. Admittedly, not every industry can be as dynamic as Silicon Valley—the slow pace of change is often a useful safety net—and there are no

one-size-fits-all solutions. But our sustainability challenges require rapid and fundamental change, so we should learn from approaches used by the industries that have proven both dynamic and successful.

Well-meaning members of the Ruling Generation should also be careful not to lead, manage, or “educate” the unique abilities out of young people. Practice tolerance when young people take different actions from the ones you would have. This is why so many articles point to Einstein’s observation that “we can’t solve problems with the same thinking that created them.” You care about the next generation (and those that come after it), so let youth make decisions.

Finally, members of the Ruling Generation have a unique opportunity for action. If you are close to retirement and financially secure, why not use this freedom from necessity to stand up for your passions? In the build-up to the Civil War, 59-year-old abolitionist John Brown attempted to start a slave uprising with a raid on Harper’s Ferry, Virginia. Mohandas Gandhi, at 73-years old, took a more peaceful approach, leading the “Quit India” civil disobedience movement for independence from Great Britain. In the pursuit of sustainability, Ruling Generation role models include David Orr, who continuously breaks the traditional faculty member mold to educate others about climate change, and James Hansen, the decorated climate scientist who, in his late 60s, has become an activist twice arrested for protesting mountaintop-removal coal mining.

No matter what the Ruling Generation does, our challenges ultimately require that the Sustainability Generation step up and lead. Thomas Jefferson thought that each new generation should have its own movement and that “eternal vigilance is the price of liberty.” This is your movement, and while many in the Ruling Generation will help, don’t expect them to all willingly move over and make room. People have a tendency to hold torches rather than pass them, especially when holding the torch pays a nice salary. But fundamental, rapid change is still possible. The entrenched interests acting against sustainability pale in comparison to those overcome by Arab Spring protestors. When the Ruling Generation stood in the way of those protestors, then youth marched forward on its own.

Cortland imagines a future where people (including the government) work to help others, not for money; where giving and charity replace greed and selfishness. Who are we to say this is not possible? Who are we to stand in his way? Young people are not only our best motivation for pursuing this dream of a better future—they are our best shot at making it real.

References

1. Sins of Greenwashing [online]. <http://sinsofgreenwashing.org/>.
2. MacKay, D. *Sustainable Energy: Without the Hot Air* (UIT Cambridge, Ltd., 2009).
3. Carr, B. 100 Years of Improvement? *Daily Fuel Economy Tip* [online] (2008). www.dailyfueleconomytip.com/miscellaneous/100-years-of-improvement/.
4. Dargay, J., Gately, D., and Sommer, M. Vehicle Ownership and Income Growth, Worldwide: 1960-2030. *Energy Journal*

28, (2007).

5. Turner, C. and Frankel, M. Energy Performance of LEED® for New Construction Buildings. *New Buildings Institute* [online] (2008). www.usgbc.org/ShowFile.aspx?DocumentID=3930.
6. The Happy Planet Index [online]. <http://www.happyplanetindex.org/>.
7. Csikzentmihalyi, M. *Creativity, Flow and the Psychology of Discovery and Invention* (Harper Perennial, 1997).
8. Verhaeghen, P., and Salthouse, T. Meta-analyses of age–cognition relations in adulthood: Estimates of linear and nonlinear age effects and structural models. *Psychological Bulletin* 122, 231-249 (1997).
9. U.S. Department of Labor. Labor Force Statistics from the Current Population Survey [online] (2011). www.bls.gov/web/empsit/cpseea10.htm.
10. Simmons, B. NBA Season Review: Time for Change. *Grantland* [online] (2012). www.grantland.com/story/_/id/7519970/time-change.

[Login to post comments](#)  [Email this page](#)

Solutions Online

Solutions Online is the primary venue of Solutions and the core forum for discussion about how to solve the world's mounting environmental, social, and economic challenges. All content is under the Creative Commons-Share Alike license.



[Learn More](#)

Site Links

[About Us](#) | [Contact Us](#) | [For Authors](#) | [Sponsors and Partners](#) | [Advertising](#) | [Subscribe](#) | [Privacy Policy](#) | [Become a Sponsor or Partner](#) | [Donate](#) | [Seminar Series Live](#) |

Solu
con
proc
enc
co-
and

St