

# The progress toward sustainability

May 2 2017, by Steve Cohen

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The integration of economic development, modern management and environmental protection created the field of sustainability management. The effort to ensure that humans could continue to benefit from the miracle of this planet, and increase the distribution of those benefits to all of humanity is well underway. In some sense, it is a race against time as we learn how to reduce the impact of economic development on the planet's ecological systems. Some environmental damage is irreversible, and in some cases remediation is extremely expensive. While the damage continues, I also see progress and I believe the momentum behind sustainability will increase. Human ingenuity, changing global culture and the health impacts of environmental destruction are factors that are leading to progress in the transition to a sustainable economy.

Population pressure continues to increase, but we now know that [economic development](#) brings declining birth and death rates and that in some developed nations, such as the United States, population would be shrinking without immigration. In developed countries, such as Japan, where immigration is rare, population is shrinking. While our society is aging, people are living longer, more productive and healthier lives. As the world develops, poverty decreases, and population begins to stabilize. While no one can predict the future, it is possible to foresee the end of the era of massive population growth.

We are also learning to apply technology to enable economic growth without increased levels of pollution. As I noted in a piece I wrote in late February:

"According to the EPA, from 1980 to 2015 the US GDP grew by 153 percent, our population grew by 41 percent, vehicle miles traveled grew by 106 percent, but [air pollution](#) declined by 65 percent."

A typical response I receive to this fact is that we must have exported all our dirty industry and that is why we could achieve this result. However, most air pollution comes from motor vehicles and power plants, and the outputs of those sources have grown, while technology has reduced their production of pollution.

We are also learning how to live more sustainable lifestyles. We've replaced trips to the mall with trips to the gym. We are using bikes more, walking more, smoking less, and paying more attention to what we eat. Our cities are developing green infrastructure to reduce the impact of flooding on our streets and waterways. We are learning how to share autos, cabs and even homes when we travel. Young people are increasingly interested in experiences and less interested in owning stuff. More and more of our time is devoted to the low impact consumption of music, movies, news, games, social communication and anything else that appears on our smart phones. Young people think about where their food comes from and its impact on their own health and the health of other living beings.

A critically important indicator of progress is the changing attitudes of the public. This is most clearly seen in the views of [young people](#) in the developed world, but it is reflected in urban and community governance and in the changing behavior of many corporations. A recent study highlights the progress now underway:

"A new report from WWF, Calvert Investments, CDP and Ceres finds nearly half of Fortune 500 companies—48 percent—have at least one climate or clean energy target, up five percent from an earlier 2014 report... Nearly 80,000 emission-reducing projects by 190 Fortune 500

companies reporting data showed nearly \$3.7 billion in savings in 2016 alone...The largest companies in the Fortune 500—the Fortune 100—continue to lead: Sixty-three percent of Fortune 100 companies have set one or more clean energy targets."

Even as the climate deniers and fossil fuel zealots take over the federal government, industry, cities and communities are making the transition to a more efficient renewable energy based economy. This is being driven by a number of simultaneous positive developments:

- The price of [renewable energy](#) is coming down while its use has become more commonplace.
- Energy efficiency practices and technologies are integrated into building designs and retrofits.
- Battery, wind and solar technologies are improving in design, durability, effectiveness and efficiency.
- The public is aware of the negative environmental health effects of fossil fuel extraction, shipment and combustion and is searching for new ways of powering their homes, vehicles and businesses.
- Corporations are seeing cost savings and public relations value in sustainable energy and resource practices.

Cities and companies see sustainability as a method of communicating their modernity and sensitivity to changing market and social conditions. State governments, particularly in California and New York are looking to modernize the electric grid and the business models of power utilities to permit decentralized, distributed generation of energy. They are doing this to improve the resiliency and cost of their energy systems to serve the needs of residents and businesses, but the [environmental impact](#) of smart-grids will be profound. Smart-grids will increase the use of renewables and reduce the vulnerability of our power system to natural and human made disasters.

As a management professor, one of the most promising trends I see is the deep interest of college and graduate students in learning how to integrate the physical dimensions of sustainability into routine organizational decision making and operations. Millennials are interested in energy use, healthy workplaces, water and material efficiency, and in reducing the environmental impacts of their organization's production process and of the goods and services they help create. This has not replaced other goals such as profit and market share in the private sector and accomplishment of key missions in the public sector, but it is viewed as means of achieving routine organizational goals. Just as a good accounting system facilitates organizational productivity, well-managed physical resources contribute to an organization's efficiency and effectiveness. This is a generation that is comfortable with technology and expects instantaneous access to information about everything. Cost data promotes reduced use of material resources and waste reduction. The goal of reducing environmental impact is seen as consistent with other goals and not something they need to trade off if they are to succeed.

We are in the early stages of a politics and culture built on perceptions generated via social media. These new forms of communication are used to gather people to demonstrate against injustice, but are also used to spread inaccurate accounts of people and events. The internet enabled Barack Obama to raise the funds needed to win the Presidency in 2008 and the entertainment value of Donald Trump brought TV ratings and web site clicks more typical of reality television than TV news. We live in an observed world where everyone with a smartphone is a videographer, and if people aren't present to record something, cameras, drones and satellites are often available to fill in. This means that fiction can easily go viral, but so too can the images of toxics leaking into a water supply. Global warming is no hoax to people who see images of ice sheets melting; and deforestation can be seen from aerial images that are a click away. Over-fishing in our oceans in part due to [China's](#)

[growing wealth and demand](#) is an emerging crisis that adds to the impression that we are using up the planet's resources.

Young people know the planet is more crowded and that resources and opportunities are both becoming increasingly scarce. I believe that these perceptions underlie the broadly based, non-ideological drive for sustainability. While the long term political impact of the internet and constant communication is not yet clear (it brought us Obama and Trump), the facts of environmental degradation are more difficult to hide. It may be possible to deny climate change models, but orange rivers and particulate-laden skies provide simple and easy-to-understand messages.

Negative factors may motivate some of the drive toward sustainability, but I believe most of the progress is coming because a sustainable, renewable resource based life style is satisfying and positive. Sitting in a traffic jam is less fun than riding a bike. Paying less for electricity is no one's idea of suffering. A positive vision of sustainability underlies much of the progress we have made thus far, and will be of increasing importance as the transition to a renewable resource based economy gains momentum.

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