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Political Will





sustain

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The Institute provides a forum to conduct interdisciplinary research, applied scholarly analysis, public service and educational outreach on environmental and sustainable development issues at the local, state, national and international levels.

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2

How the Active Many Can Overcome the Ruthless Few

Bill McKibben



8

All Environmental Politics is Local

Steven Cohen



16

Sustainability and the Future of Louisville

Mayor Greg Fischer



18

The Global Politics of Climate Change

Rodger A. Payne



23

Our First Big Win Against Trump's Agenda

Fred Krupp



25

Creating Political Will through Framing: Strategies for Environmental Communication

Melissa K. Merry



36

Standing Strong for Science and Democracy

Seth Shulman

Issue 37 - Fall/Winter 2018

Political Will:

Environmental activist protesting outside the White House in Washington, D.C. Permission to print granted by 350.org

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All Environmental Politics is Local

by Steven Cohen

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The political differences we see on climate issues globally reflect different cultures and distinct stages of economic development. Just as global treaty negotiations work to bridge the divide between nations, Americans need to renew our search for common ground. For most of the 21st century, our national politics has been about how we differ. With the phrase “climate change” disappearing from U.S. federal government websites and increased talk of regulatory overreach, it is obvious that protecting the environment will continue to be a fault line in American political ideology. While there are plenty of examples of environmental regulations being administered with rigidity and inflexibility, there are far more examples of accommodation and a process that provides plenty of time for businesses and localities to comply with environmental standards. The typical pace of regulation implementation in America is measured in decades, not days, and the gradual and incremental approach to environmental protection has worked.

I anticipated President Trump’s shortsighted decision to withdraw from the Paris climate accord and predicted that his actions might provide environmentalists with a common enemy to rally against. That seems to have happened. Former New York City Mayor Michael Bloomberg is organizing American corporations, states, cities and other institutions to commit to greenhouse gas reductions and be recognized by the U.N. as they fulfill the U.S. reduction obligations under the Paris agreement. Bloomberg’s leadership and the rapid mobilization of leaders concerned about climate change demonstrate that America’s power resides both inside and outside the Washington beltway. Fortunately, many of Trump’s plans are being countered by other parts of our government, other institutions, and his own inability to form a competent government. Congress restored some of the science budget cuts initially proposed by Trump and the courts have countered some of his immigration policy excesses. The Senate voted to uphold regulations on methane emissions from oil and gas wells on public land, and nearly everyone is trying to reduce their greenhouse gases. President Trump’s visible attack

on the climate treaty was discouraging, but it was far from the last word on the subject. As the current political climate develops and the Trump administration works to chip away at Barack Obama’s legacy, it is easy to be disheartened for the environmental agenda. But history has shown that change, especially that which is instigated by policy, happens incrementally.

America’s air and water are cleaner today than they were in the 1970s and our population and economy have grown substantially since then. The hazardous waste regulations required in the 1976 Resource Conservation and Recovery Act, and the 1984 amendments to that bill, were not finalized until the 1990s. The Federal Water Pollution Control Act was enacted in 1972 and here in Manhattan we were still dumping raw sewage into the Hudson River until the North River wastewater treatment plant opened in 1984. However, when we look back to assess the effects of improved water infrastructure, we can see positive results. The federal government spent \$56 billion in municipal sewage treatment between 1970 and 1990. The portion of U.S. citizens served by wastewater treatment plants grew from 42% to almost 75% by 1985 (Adler, Landman & Cameron, 1993).





Developing, issuing and implementing environmental regulations is a long process of give and take, but given the proper timeline, improvements are measurable. The takeaway is that government agencies must invest in the fundamental systems that citizens rely on.

Whenever I hear that environmental protection is a partisan issue, I'm reminded of New York City Mayor Fiorello LaGuardia's famous statement that there is no Democratic or Republican way to pick up garbage. The provision of clean air, safe drinking water, solid waste management and flood control are all basic public services that people who pay taxes expect to receive. When governmental agencies take a short cut for these fundamental public services, the consequences can be dire.

We all witnessed the extensive coverage of the water crisis in Flint, Michigan. When the city of Flint decided to stop using Detroit's water system in 2014, they began instead to pump water from the Flint River as a temporary solution before connecting to a regional water system once its construction was completed. Yet by 2015, high levels of lead were found when they conducted blood tests for local children. According to a 2015 study, the water from the Flint River was, on average, 19 times more corrosive than the water from the Detroit water system (Roy, 2015). The damage was done and the pipes in the city were completely contaminated with lead and other pollutants. Then-President Obama declared Flint to be under a state of emergency. This situation might have been avoided if the state had required that corrosion protection chemicals be added to the new water supply, which the Department of Environmental Quality failed to do in violation of federal law. According to an article in the *American Journal of Public Health*, "the legal safeguards and regulating bodies designed to protect vulnerable populations from preventable lead exposure failed" (Hanna-Attisha, LaChance, Sadler & Schnepf, 2016).

However, the situation in Flint and other similar stories may have an upside since there is a chance that a consensus is emerging on the importance of rebuilding America's infrastructure. We may be entering a period of intense capital construction to reinvent our decaying infrastructure. If this is to take place, it is critical that we do not simply build for its own sake, but build with a sense of strategy and purpose. America is a more crowded and urban place than it once was. Our fundamental systems are all in need of investment and construction. The repair and construction of 21st century infrastructure could provide the bridge employment needed by people with 20th century skillsets. While those construction jobs are also increasingly mechanized, our roads, bridges, electrical systems, water and waste systems need a major infusion of capital and construction.

Infrastructure such as water and sewage systems, smart energy grids and public transit are important in every part of the world, even more so as population grows. Strong leadership at state and local levels can help to develop successful solutions for region-specific issues, and are crucial for the collaboration with

the private sector to create the kind of public-private partnerships necessary for coupling economic growth with a sustainable society.

The Importance of Local-Level Sustainability to Building Political Support

Sustainability initiatives are funded by state and federal entities, but local governments often implement them. At the heart of the presidential campaigns, partisan discord, and sustainability policy, environmental quality for citizens and their day-to-day experiences rely heavily on the issues relevant to their region. I find that when environmental politics leaves the symbolic and abstract discussion at the national and global levels and turns to local issues such as what do we do with the garbage and how do we deal with traffic, support for the goals of urban sustainability grows. That is why successful strategy for environmental protection needs to focus on local impacts, like the new transit options for New York City, or how to avoid the issues of water infrastructure for cities like Flint. According to the UN Environment Programme, "local authorities construct, operate and maintain economic, social, and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and subnational environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing, and responding to the public to promote sustainable development" (UNEP, 2000).

Most of the actual work of government is done at the local level. Cities are important agents for sustainability because of their population size, environmental impact, and direct service delivery role. Local governments are responsible for schools, police, firefighting, transportation, land use, water, and waste management—not to mention parades and fireworks. The federal and state governments make policy and collect and distribute revenue, but for the most part, the real work of government is local. Researchers Daley, Sharp, and Bae (2013, 146) stated in a study that at lower levels of government, "problems are more likely to be accurately identified, solutions are crafted at the local level by individuals who understand the political and social culture, and feedback and adaptive management can be more immediate."

City-level sustainability initiatives, such as PlaNYC 2030/OneNYC in New York City, or Greenworks in Philadelphia, tend to be integrated into local economic development efforts and often enjoy a high level of nonpartisan support. Many local leaders have come to understand that sustainability drives economic growth. According to the New Climate Economy commission, investing in public and low-emission transport, energy efficiency of buildings, and waste management in cities could generate \$17 trillion in savings worldwide by 2050 (The New Climate Economy, 2015). Green initiatives attract business, tourists, and new residents. People can see and experience local-level sustainability initiatives because they have an immediacy



not typically seen at other levels of government. In New York City, you can see the bike-sharing stations, the new bike lanes, and the three types of trash and recycling baskets out on the street. Efforts at energy efficiency can be seen in lower utility bills. Federal or state governments fund some sustainability initiatives, but local governments typically implement them.

At the state and local levels, *Governing Magazine* counted water supply and carbon emissions as two of the top 10 “legislative issues to watch in 2015” (*Governing Magazine*, 2015). This is an indication that apart from the strategy considerations of American presidential politics, the basic needs of state and local governance show that environmental issues are moving to the center of the political process. These state and local priorities could influence presidential primaries and spill into the national election agenda, although clearly we saw little of this in 2016. Despite 2016’s relentless national race to the bottom, efforts to avoid addressing environmental issues may become more difficult in our evolving electoral political life. While we desperately need U.S. federal sustainability policy, in the final analysis the environmental quality that people experience in their home communities will have the highest degree of political salience. A successful strategy to protect our environment will need to focus on local effects. Once again, the late Speaker of the House Tip O’Neill is proven correct: “all politics is local” (and, by extension, all environmental politics is local).

In the United States, it has fallen to states and cities to facilitate the transition to sustainability. The cities that implement sustainability plans and the states that enforce environmental rules have cleaner air, better parks, and higher quality of life. The most popular sustainability practices in cities include tree conservation, alternative-fuel vehicle adoption, promotion of bicycle use, water conservation, education, and construction of new buildings using Leadership in Energy and Environmental Design (LEED) standards (Wang et al. 2012, 847). In the long run, these assets will attract people and business in the global economy.

But a large part of the country clings to the fossil fuel-based economy. They treasure their SUVs and express a desire to turn the clock back to an America that was simpler, and somehow “greater”. I’m not sure that world ever existed, but nostalgia is a powerful political force. Still, people of all political persuasions like to breathe fresh air and drink clean water. Some may never believe the science of climate change, but they know orange water when they see it and they know it is government’s job to keep the drinking water clean and safe. One of the attractions of American cities that continue to be based on a suburban sprawl mode of land use is that housing tends to be less expensive, and many people prefer large private spaces. However, even these sprawling cities are beginning to see solar arrays installed on their rooftops along with electric vehicles charging in their garages.

Moves Toward a Renewable Resource-Based Economy

As we strategize progressing to a more sustainable society, there are many areas that require investment: transportation, airports, solid waste management, smart grid and micro-grid computer control upgrades to energy systems, and water and sewage treatment centers. We need to learn that the use of outmoded and decaying infrastructure is less of a bargain than it seems, and we need new systems to be based on renewable energy.

One of the most profound and important issues involved in the discussion of sustainability is energy – even without environmental destruction such as ecosystem damage and climate change, renewable energy is clearly the next phase of human technological evolution. The energy future, like the rest of our economic future, depends on technological innovation and ingenuity. We are now in the brain-based economy. Software makes more money than hardware. A century ago most of our economy and most of our labor was in the production of food, clothing and shelter. Today, less and less of our GDP is in those necessary but relatively shrinking businesses. In the book *Cloud Manufacturing*, Bi and Wang explain this gradual transition in their chapter ‘Manufacturing Paradigm Shift Towards Better Sustainability.’ In the chapter, the authors describe the global trend away from manufacturing and towards a more information-technology driven economy: “With an abrupt advancement of information technology (IT) from 1980, the global manufacturing markets were gradually saturated, thus companies were pressured to manufacture new products at a fast pace to catch earlier marketing opportunities. Today, we are more conscious ... of the shortage of natural resources in the near future; manufacturing companies are forced to change their system paradigms to accommodate ... sustainability” (Bi & Wang, 2013).

My view is that the real action and focus of our effort should be on making sure the demand for fossil fuels goes down as soon as possible. Just as we went from human-pulled carts to animal labor and from animals to fossil fuels, the next step is electric vehicles powered by renewable energy stored in high-tech batteries. Part of the argument for renewables is price. Though it is difficult to make a direct comparison between the cost of fossil fuels and renewable energy sources due to government subsidies, studies have shown the massive amount of money being spent to facilitate the fossil fuel industry (Bast, Doukas, Pickaard, van der Burg & Whitley, 2015). Even if we ignore their damage to the environment, and even though the technology of fossil fuel extraction is advancing rapidly, fossil fuels have the fatal flaw of being finite. That means over time they become less plentiful. That time may or may not come soon, but it will come. The technology of extracting and storing energy from the sun will become cheaper over time. We have already seen the impact of technology on price with computers and cell phones. The price of energy from the sun remains zero, and human ingenuity and the advance of technology are inevitable. Someone soon is going to



solve the problem of generating and storing renewable energy. If done correctly, the leader of that effort will be the Bill Gates or Steve Jobs of the next generation.

A recent report released by the International Renewable Energy Agency (IRENA) discusses the barriers to energy storage, such as performance and safety. However, these barriers are already being reduced by continued research and development. According to IRENA (2015), “In multiple application areas around the world, batteries have been deployed to aid the integration of renewable energy, especially solar and wind power... Costs are coming down, and technological progress is improving performance. Recent progress is also making batteries safer and more efficient.”

The nation that develops renewable energy that is cheaper than, and as reliable as, fossil fuels will dominate the world economy. Reducing climate change and air pollution is a beneficial byproduct of this technology, but cheaper and more reliable energy is the main outcome. This cannot be achieved without government support. In the past century, America’s research universities and national laboratories, funded by the federal government and often by the military, have been an engine of technological innovation: transistors, semi-conductors, satellite communications, mini computers, GPS, the internet...the list goes on.

Coupled with this pursuit of winning the race for technological advancement, we should also focus on modernizing our state and local energy systems. We should prepare for distributed generation of renewable energy from households and businesses by building community level micro-grids that will eventually be tied together into state-level smart grids. These computer-controlled updated electrical systems will allow energy to be stored and generated with maximum efficiency. They will enable the system to be resilient in the face of storms and other disruptions. We should encourage the business of auto charging stations and/or build public charging stations if the private sector doesn’t initially see the profit. We should use state and local tax and zoning laws to encourage energy efficiency and renewable energy. By modernizing the energy system we can reduce the costs and environmental impact of our energy use.

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. The Energy Commission for California estimates that about 27 percent of its electricity retail sales in 2016 were served by renewable energy sources (CEC, 2016). New York State’s renewable energy portfolio is made up of about 80% hydroelectricity, mostly due to the Robert Moses Niagara hydroelectric plant, the largest hydroelectric power plant east of the Rocky Mountains. New York is one of the leading states for converting their landfill gas to electricity (US EIA, 2016). These

states are taking these measures to improve the resiliency and cost of their energy systems to serve the needs of residents and businesses. Both are promoting smart grids and 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.

When the energy dilemma is finally fixed, we will be free to pursue the post-industrial economy and the sustainable lifestyles we are beginning to see. The transition to this new economy will not be easy and it is likely that many people who benefited from the old economy will have difficulty adjusting to the new one. It will be the job of government to ensure that the social safety net is adjusted to provide not just material wellbeing, but a sense of purpose and dignity for people who face the challenges of adjustment. This transition does have a cost, but the solution to climate change is not to punish consumers or raise the cost of energy. Poor people and rich people rely on energy. For poor people, the energy bill is a high proportion of their weekly budget. Rather than raise the price of fossil fuels, our climate policy should lower the price of renewable energy. We should subsidize electric cars, solar panels and other technologies to make it possible for working families to afford them. The infrastructure needed for renewable energy will be built and managed by private firms, but requires public sector engagement in the form of investment and sophisticated public-private collaboration.

Sustainable Urban Living

Environmental advocates often focus on individual behavior and say we need to develop lifestyles that consume less and do not damage ecosystems. On a worldwide basis with billions of people aspiring to higher levels of material consumption, individual reductions in consumption in the developed world will have little real impact. But I have hope that we can and are changing the nature of consumption just as we are changing the nature of work. A person can spend time and enjoy that time by consuming resources at a ferocious rate or at a moderate rate. You could walk and bike to work, take a train, or be driven in a huge, shiny SUV. You could recycle your food waste from your kitchen or toss it out your window to the alley below. Your lifestyle has resource implications. Sustainable urban living requires energy efficient buildings, smart grids, mass transit, and green spaces—but it also seems to be evolving a new approach to owning and using resources.

A growing aspect of sustainable urban living is the “sharing economy.” Sharing has always been a part of urban life; we have long shared books in public libraries, nature in parks, and seats on the stoops of row houses. But in the past few years, cities have seen a significant revival and acceleration in sharing activity and innovation. In cities around the world, people are now welcoming guests into spare rooms, sharing tools and equipment, and paying for rides in cars of people they don’t know. Start-up businesses



are sharing computing space in the cloud and leasing office space and conference rooms by the hour. The sharing economy is growing as young people and a few older folks decide that access to cars and other resources is more important than owning them.

The sharing economy, or collaborative consumption, is a way of “renting” resources owned by one individual to be accessed by many other individuals. It is a system built around the use of unused or under-used resources. The modern sharing economy dates back to the 1990s with the founding of online marketplaces eBay and Craigslist, which allow for the recirculation of goods. But today’s sharing economy looks slightly different, fueled by information and communication technology and the proliferation of web-based communities. The size and scale of leading companies operating within the sharing economy, most of which didn’t exist a decade ago, now rival some of the world’s largest businesses. By using innovative technologies and creative business models, and even redefining concepts of equity and safety, the sharing economy is starting to change our cities and our lives.

Cities have many resources that can easily and effectively be redistributed and shared. By allowing people to own less and consume only what they need, fewer resources are wasted, promoting urban sustainability. However, sharing economy services have also presented cities with unprecedented and complex questions of governance. The greatest challenge for cities is finding a balance between embracing these new businesses, as well as the various benefits they offer to residents and visitors, and regulating their safety and quality. With more types of sharing businesses entering the market and the rising popularity of these new applications and services, city leaders have been forced to address a variety of issues all at once, such as how to conduct background checks on service providers, and how to combat discrimination from resource owners such as drivers and homeowners? Despite these issues, the popularity and growth of the sharing economy has been rapid and dramatic.

Technological innovations have streamlined entry into the market for suppliers, facilitated easy access to searchable listings for consumers, and kept the costs of doing business low. As a result, sharing goods and services is cheaper and easier than ever before, and possible on a much larger scale. Before the internet, renting a good or space from someone else was feasible and common, but rarely quick and simple. Now websites match up apartment owners and renters; smartphones with GPS let people see where the nearest rentable car is parked; social networks provide a way to check up on people and build trust; and online payment systems handle any billing. Just as YouTube changed TV and social media disrupted the mainstream media, the sharing economy replaces the industrial model of companies owning and people consuming, and allows everyone to be both consumer and producer.

It is not difficult to imagine these changes, but the only way they will happen is if people are positively attracted to them rather

than punished for their attraction to unsustainable consumption patterns. According to researchers from the University of Groningen, by creating a dynamic in which pro-environmental behavior is not only the “right” thing to do but also aligns with the “norm” of society, those behaviors become what is referred to as “normative goal framing.” Observing others participating in a sustainable behavior can encourage one to adopt those habits as well (Steg, Lindenberg, and Keizer, 2015). Culture and values are far more powerful forces of social change and consumption patterns than regulation. Hopefully the images of interesting and exciting work and play will reflect the growing understanding of the need to minimize the damage of our work and play on the planet that sustains us.

An Example of Sustainable Infrastructure: Parks & Open Space

In a world that is increasingly urban, we often overlook the importance of city parks as critical pieces of urban infrastructure. When hard-pressed city officials are balancing the demands of public safety, education, transportation, water, sanitation and homeless services with parks, it is easy to see why parks are often seen as a residual budget category. Nevertheless, day in and day out our urban parks are among the most important, used and even loved services of city governments.

In PlaNYC 2030’s original 2007 urban sustainability plan, the Bloomberg administration set a goal that every city resident would live within a ten minute walk of a city park. This was a clear, operational and measurable indication of the importance of parks to urban life. There are a great many different types of urban parks and uses of parks. One use is for recreation- ball fields, tennis and basketball courts, pools, skating rinks, boating and sailing. Another use is ecological. Green space absorbs heat and carbon dioxide, assists in controlling storm water runoff, and can help preserve biodiversity. There is also the visual amenity offered by a park. In many cities, homes with a view of a park are more highly valued than identical homes without a park view.

Parks can also provide a commerce-free zone for families. Most public spaces in America feature commercial venues of one sort or another: amusement parks, shopping malls, professional sports facilities, movie theatres and so on. This adds to the financial pressure on a family. Parks are often free of commerce or if there is a restaurant or ice cream vendor in the park, they do not dominate the environment. Families can bring their own food, sports equipment and games, and folks can relax knowing their wallets aren’t being emptied by the hour.

Parks are a place where friends and families can gather and where neighbors can informally and casually interact with neighbors. They are a democratizing feature of urban life. There is no VIP line, charge, or special place for the elite in the typical public park. Rich and poor share the same space and facility. In this sense parks can contribute to social understanding and political stability.



While many people who live in cities spend most of their time indoors, parks provide actual and implicit outdoor space. The fact is that if everyone indoors suddenly decided to go to their local park, they would be so crowded that it would serve no purpose. But people visit parks for relatively short periods of time and most people do not visit their local park on any given day. But the experience of the park provides a pleasant memory and the potential access may well be more important than actual park use. This means that a relatively small amount of land can meet the outside space needs of a relatively large amount of people. Skilled landscape design can enable a large number of people to use outdoor park space without being aware of the number of people present. Sound effects from waterfalls can mask the sounds of people. Trees, hills, ponds and other design features as well as public plazas surrounded by wooded areas without recreation facilities can be used to concentrate people but also leave natural areas less trafficked.

In addition to publicly owned and operated parks, we see examples like New York's Central Park which is owned by the City of New York, but operated by the nonprofit Central Park Conservancy under contract to the City. It is also possible for private developers to build and operate public spaces for public use or to build and operate private spaces for the use of their own customers or residents. In some cities a private developer may be given permission to build more densely than the rules allow, in return for the "community benefit" of open space or a public plaza or facility. In some cities, institutions such as museums, botanical gardens, universities and zoos maintain both restricted spaces and spaces that are typically open to the public for events. Columbia University has a stunning central plaza that is open to the public and is a popular stop for tour buses and tourists. These public-private partnerships can help extend the reach of public spaces.

In 2016, New York opened a new urban park in Staten Island on the site of the city's last landfill. While this park will probably never have the glamor of the High Line Park in Manhattan, it will become increasingly important as Staten Island continues to develop and become more densely settled and more like New York City's other outer boroughs.

New York's Freshkills Park may be a tough sell for those of us who remember the huge landfill that used to be there. But anyone born in the 21st century will not associate that space with garbage, and over the next half century it will become of increasing importance to the development of Staten Island and New York City. Philip Hutchinson discusses the desire for open space in urban areas in his paper *Exploring the Connection between Landscape and Biopolitics: The Story of Freshkills Park*. Hutchinson discusses how Fresh Kills Park represents an overlap in the population's need for parks, and the behavior of the population relating to human impacts on the biosphere. "In crowded cities like NYC, it is parks that provide the spaces where activities of recreation can freely occur. In that sense, parks provide the spatial requirement for practices of self-discipline.

Thus, in part, the provision of parks in a city is responding to the perceived needs and desires of the population and adds a positive element to the fabric of a large city" (Hutchinson, 2017).

New York has a long history of park development with an eye toward the future. When Central Park was designed, the land surrounding it was not yet developed. Imagine Manhattan today without Central Park. Imagine the Upper West Side of Manhattan without Riverside Park. Someday people will have a hard time imagining Staten Island without Freshkills Park.

The Future of Urban Sustainability

Elements of economic and demographic life provide great challenges to our governments and leaders here in America and around the world. There are over seven billion people on the planet, and if economic growth continues along with better health care and birth control, human population will probably peak at 9 or 10 billion. As we see the world shift in the direction of faster transportation, healthier food, and safer communities, we must assess the roles of stakeholders in preserving the earth and its resources. We are in a culture that values wellness. Today, Americans tend to watch what they eat, attempt to exercise, take advantage of medical technology and monitor their children's well-being. Lead in the water supply, toxics in basements, untreated sewage, garbage floating in the ocean- these environmental insults, when made obvious to the public eye, inspire rapid and effective political reaction. At the state and local level we should be monitoring the environment and publicizing exposure to toxics in local media. Because of the lack of leadership from federal agencies in our country, the power to support environmental agendas shifted to local and state level agencies long ago. In most (but not all) of America these institutions have grown in capacity over the past quarter century. They are well positioned to continue progressing and resist any efforts to backpedal that may come from the out of step ideologues running the federal government.

Ecosystems do not recognize state or national borders. Toxics transported by air and water can easily move from place to place. That is why national institutions and international treaties are needed to protect the planet. States and communities are the first line of defense, but they may lack the resources or the scientific expertise needed to understand and successfully address the problem. Americans concerned with wellness, diet, exercise, and preventative health care will not be happy when they learn that the federal government is cutting back on efforts to study, regulate, and control toxics in their air, water, and land.

Climate change may not be a highly visible local issue, but it is one that most people are concerned about. In a 2017 Quinnipiac University National Poll, 67 percent of American voters in the survey oppose cuts to scientific research on the environment and climate change; 73 percent are concerned about climate change and 63 percent do not want climate regulations removed. Of those voters between 18 and 34 years of age, 78 percent believe



that human activity causes climate change—that compares to 54 percent of those over 65. Polling on visible local pollution shows even deeper support for environmental protection (Quinnipiac University, 2017).

State and local governments cannot perform all the functions that a national environmental agency can. There are places where a failing EPA will fail the American people. Scientific research, cross border impacts, and global issues will be neglected under the Trump-Pruitt EPA. But visible local environmental impacts will generate “not-in-my-backyard” community activation. People care about their family’s health and their own health. Toxic waste, polluted air, garbage on the beach, and lead in their drinking water will require mayors and governors to act. And they will. My hope is that state and local environmental concerns can counter the anti-regulatory zeal of the extreme right. As Pew reports in its most recent survey of environmental attitudes: “...about three-quarters of U.S. adults (74%) said “the country should do whatever it takes to protect the environment,” compared with 23% who said “the country has gone too far in its efforts to protect the environment” (Anderson, 2017).

But the survey also indicates growing partisanship on environmental regulation. Nearly 60 percent of Republicans think that environmental regulation reduces economic growth and employment. Before the Great Recession only 34% of Republicans held that factually inaccurate view. Conservative ideology may argue that environmental regulation costs jobs, but the opposite is true. Environmental protection is a “product line” that stimulates growth and employment. People will pay for clean air and water, and the technology that cleans air and water adds to the GDP. As does the increased productivity of those who are not made ill by environmental insults. While conservative ideology is anti-regulation, the environment is so important to health that most conservatives favor the government doing “whatever is needed” to protect the air, water and land. But the Pew study worries that people are inconsistent in their support of environmental protection. The study notes that the environment doesn’t rank as high as other issues and that many people don’t live “environmental lifestyles.”

My view is that America’s environmental attitudes and values are quite consistent and the Pew analysts are misreading how the environment works as a policy issue and lifestyle choice. As a policy issue, the environment always has tremendous latent power. The public knows that the air and water are cleaner than they used to be. If people believed the environment was getting worse, it would move up on their public policy issue priority list. High ranking on policy issues results from a combination of the issue’s importance and government’s progress in addressing the issue.

What is needed politically and in reality is a positive vision of a sustainable society. In the case of this country, it will need to be built on the traditional values that have always attracted people to America: freedom, rewarding individual achievement,

a love of the new and novel, innovation, and acceptance (even if reluctantly) of other people, cultures, and lifestyles. We may end up living in smaller and better-designed personal spaces along with increased access to more interesting and beautiful public spaces. More of us will spend more of our time in cities and towns. Some of our personal transportation may be replaced by mass transit or Uber-like shared transport. Our diets will continue to change; our engagement in physical fitness, health care, wellness, education, and electronic media will increase. And we will pay more attention to the source of our energy, food, and water and will look to ensure that it is renewable and free of toxics. We will pay more attention to where our garbage goes and think about how to make sure that our waste does not go to waste.

These changes are not simply a temporary fad or a symbolic trend, but a durable element of our changing values. I believe there are two reasons for this shift. The first is the objective degradation of environmental conditions that people can see, smell, or at least view through the media. Whether it is smog in China, drinking water in West Virginia, or the BP oil spill in the Gulf of Mexico, people know these facts. The second reason is related to the growing emphasis on health, nutrition, exercise, and what we sometimes term “wellness.” People are paying more attention to their physical and psychological health. In order to succeed in protecting yourself and your loved ones, government must do its part and protect the environment: on a more crowded planet with higher and higher levels of economic consumption, environmental sustainability cannot be assumed, it must be managed.

Our economy will continue to change, as will our lifestyles as technology and new services and products come to market. How we spend our time and what we do every day will continue to change. Human ingenuity guarantees it. What is not guaranteed is that our inventiveness will take into account the health of our natural systems. But the growing number of people determined to live a sustainable lifestyle will help assure that this new chapter of economic evolution will not be the final chapter. My view is that consumption must change, but that we can grow our economy while doing a better job of managing environmental impacts.

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References

- Adler, R.W., Ladman, J.C., & Cameron, D.M. (1993). *The Clean Water Act 20 years later*. Washington, D.C.: Island Press.
- Anderson, M. (2017, April 20). For Earth Day, here's how Americans view environmental issues. *Pew Research Center*. Retrieved from <http://www.pewresearch.org/fact-tank/2017/04/20/for-earth-day-heres-how-americans-view-environmental-issues/>
- Bast, E., Doukas, A., Pickard, S., van der Burg, L., & Whitley, S. (2015, November). Empty promises: G20 subsidies to oil, gas and coal production. *Oil Change International*. Retrieved from http://priceofoil.org/content/uploads/2015/11/Empty-promises_main-report.2015.pdf
- Bi, Z.M., & Wang, L. (2013). Manufacturing paradigm shift towards better sustainability. In W. Li & J. Mehnert (Eds.), *Cloud Manufacturing* (pp. 99-119). London, UK: Springer.
- California Energy Commission (CEC). (2016, December 22). *Renewable energy – overview*. Retrieved from http://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf
- Daley, D. M., Sharp, E.B. and Bae, J. (2013). Understanding city engagement in community-focused sustainability initiatives. *Cityscape*, 15(1), 143–161.
- Feygin, M., & Satkin, R. (2004, March). The oil reserves-to-production ratio and its proper interpretation. *Natural Resources Research*, 13(1), 57-60. Retrieved from <https://link.springer.com/content/pdf/10.1023%2FB%3ANARR.000023308.84994.7f.pdf>
- Governing Magazine. (2015, January). *2015's top legislative issues to watch*. Retrieved from <http://www.governing.com/topics/politics/gov-issues-to-watch-2015.html>
- Hanna-Attisha, M., LaChance, J., Sadler, R.C., & Schnepf, A.C. (2016, January 21). Elevated blood lead levels in children associated with the Flint drinking water crisis: a spatial analysis of risk and public health response. *American Journal of Public Health*, 106(2), 283-290. doi: 10.2105/AJPH.2015.303003
- Hutchinson, P. (2017). Exploring the connection between landscape and biopolitics: the story of Freshkills Park. *Landscape Review*, 17(1), 96-107. Retrieved from <https://journals.lincoln.ac.nz/index.php/lr/article/view/1011/685>
- International Renewable Energy Agency (IRENA). (2015). *Battery storage for renewables: market status and technology outlook*. Retrieved from http://www.irena.org/documentdownloads/publications/irena_battery_storage_report_2015.pdf
- Quinnipiac University (2017, March 24). *Quinnipiac University poll: American voters want to save big bird, Quinnipiac University national poll finds; most oppose spending cuts in trump budget* [Press release]. Retrieved from https://poll.qu.edu/images/polling/us/us03242017_Ukux36wm.pdf/
- Roy, S. (2015, September 11). Test update: Flint River water 19X more corrosive than Detroit water for lead solder; now what? *Flint Water Study*. Retrieved from <http://flintwaterstudy.org/2015/09/test-update-flint-river-water-19x-more-corrosive-than-detroit-water-for-lead-solder-now-what/>
- Ruckelshaus, W.D. (2017, March 7). A lesson Trump and the E.P.A. should heed. *The New York Times*. Retrieved from https://www.nytimes.com/2017/03/07/opinion/a-lesson-trump-and-the-epa-should-heed.html?mcubz=1&_r=1
- Steg, L., Lindenberg, S. & Keizer, K. (2015). Intrinsic motivation, norms, and environmental behavior: the dynamics of overarching goals. *International Review of Environmental and Resource Economics*, 9, 179–207. doi: 10.1561/101.00000077
- The New Climate Economy. (2015, November 8). *Low-carbon cities are a US\$17 trillion opportunity worldwide* [Press release]. Retrieved from <http://newclimateeconomy.net/content/press-release-low-carbon-cities-are-us17-trillion-opportunity-worldwide>
- U.S. Energy Information Administration (USEIA). (2016, July 21). *New York state profile and energy estimates*. Retrieved from <https://www.eia.gov/state/analysis.php?sid=NY#69>
- United Nations Environment Programme (UNEP). (2000). *“Agenda 21” chapter 28*. Retrieved from <http://www.unep.org/Documents/Default.asp?DocumentID=52>.
- Wang, X., Hawkins, C.V., Lebrede, N. & van M. Berman, E.M. (2012). Capacity to sustain sustainability: a study of US cities. *Public Administration Review*, 72(6): 841–853. doi: 10.1111/j.1540-6210.2012.02566.x