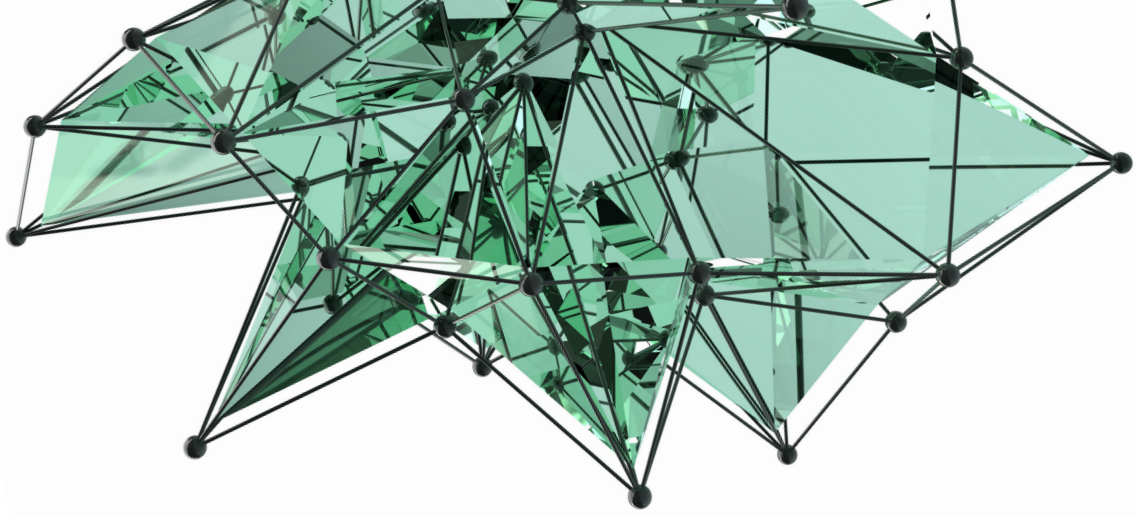

Resilience Matters

Transformative Thinking in a Year of Crisis

Introduction by

Laurie Mazur

About the Urban Resilience Project

Over the last three decades, Island Press has published seminal works on resilience, ecosystems, and sustainable urban design. As our cities confront turbulent times, much depends on how resilience is defined and implemented. Seeing an opportunity to shape that outcome, Island Press launched the Urban Resilience Project in 2013, with the support of The JPB Foundation and The Kresge Foundation.

The project's goal is to advance a holistic, transformative approach to thinking and action on urban resilience in the era of climate change, an approach grounded in a commitment to sustainability and equity. We bring together leading thinkers with a broad range of expertise to generate and cross pollinate ideas. And we share those ideas in a variety of media—books, articles, interviews, webinars, podcasts, and educational courses.

For more information, and to find out how you can get involved, visit www.islandpress.org/URP

About the Kresge Foundation

and its environment program

The Kresge Foundation is a $3.5 billion private, national foundation that works to expand opportunities in America's cities through grant making and investing in arts and culture, education, environment, health, human services, and community development in Detroit. Its Environment Program helps communities build environmental, economic, and social resilience in the face of climate change.

For Kresge, resilience is more than just withstanding stresses—it also includes the capacity to prosper under a wide range of climate-influenced circumstances. In the long term, resilience is possible only if society reduces greenhouse gas emissions and avoids the worst impacts of climate change. So, strengthening a community's resilience requires efforts to:

- Reduce the greenhouse gas emissions that contribute to climate change;
- Plan for the changes that already are under way or anticipated;
- Foster social cohesion and inclusion.

As a foundation committed to creating opportunity for low-income people and communities, Kresge is particularly concerned with the effect climate change has on people with limited economic resources. It works to engage people from historically underrepresented groups in efforts to build resilient communities and plan for climate change.

About the JPB Foundation

and its environment program

The JPB Foundation's mission is to advance opportunity in the United States through transformational initiatives that empower those living in poverty, enrich and sustain our environment, and enable pioneering medical research.

The JPB Environment Program's goal is to enable healthy and resilient communities by enriching and supporting the environment because JPB believes it measurably impacts the well being of our human and natural systems. All of JPB's Environment grant making is focused in low-income communities and underserved communities of color.

About Island Press

Since 1984, the nonprofit organization Island Press has been stimulating, shaping, and communicating ideas that are essential for solving environmental problems worldwide. With more than 1,000 titles in print and some 30 new releases each year, we are the nation's leading publisher on environmental issues. We identify innovative thinkers and emerging trends in the environmental field. We work with world-renowned experts and authors to develop cross-disciplinary solutions to environmental challenges.

Island Press designs and executes educational campaigns in conjunction with our authors to communicate their critical messages in print, in person, and online using the latest technologies, innovative programs, and the media. Our goal is to reach targeted audiences—scientists, policymakers, environmental advocates, urban planners, the media, and concerned citizens—with information that can be used to create the framework for long-term ecological health and human well-being.

Island Press gratefully acknowledges the support of The JPB Foundation and The Kresge Foundation, without whose partnership this journal would not be possible.

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Contents

Section III: Urban Development

Section IV: Infrastructure

Section VI: Energy

Introduction

A Year of Crisis and Resistance

Laurie Mazur

These are trying times for those who care about equity, sustainability and climate change—the issues that will shape our common future. In 2017, we saw the ascension of a US presidential administration that denies the reality of climate change, emboldens hate groups, and borrows from the future to bestow massive tax breaks on the wealthiest people and corporations.

Many of us watched in horror as police turned water cannons on peaceful protesters at Standing Rock, and as neo-Nazis marched in Charlottesville. We mourned the rollback of Obama-era environmental protections, carried out by fox-guarding-the-henhouse cabinet appointees. And we lamented the US withdrawal from the Paris Climate Accord, against the backdrop of accelerating climate crisis. Indeed, from deadly wildfires to devastating hurricanes, 2017 was the most expensive year on record for weather disasters in the United States.

And yet, even in these times, there are extraordinary people working to create a fairer, greener world. Here at the Island Press Urban Resilience Project, it is our privilege (and pleasure) to help those people amplify their voices—informing and inspiring us all. We collaborate with a diverse group of activists, academics and practitioners to sound the alarm about threats and—importantly—to lift up stories of sustainable, equitable solutions.

Those stories, originally published in a wide variety of news outlets, are collected in this volume. Here, you can read about community groups that are growing local economies while reducing carbon emissions and building climate resilience. That includes California's Cooperation Richmond, which builds local wealth by incubating worker- and community-owned co-ops. It includes UPROSE, in Brooklyn, New York, which is reimagining its industrial waterfront as a hub for green industries that create good-paying jobs. And it includes PUSH Buffalo, in New York State,

which organized residents to create a 25-square-block Green Development Zone, a model of energy-efficient, affordable housing. There's more—from activists fighting against water shutoffs in Detroit, to the burgeoning local food movement in Milwaukee.

This upsurge of community action is a silver lining, of sorts, to the gathering dark clouds. As Cecilia Martinez of the Center for Earth, Energy and Democracy observes (page 112), "When the political system does not provide for the common good, those that deal with the consequences have to be creative, innovative, and action-oriented. And we do see that. All kinds of communities are coming together to try and figure out how to build systems that are both environmentally sustainable and equitable."

In these pages, you will see what those systems can look like. You can learn about the renewable energy revolution, which is proceeding despite the Trump Administration's flat-earth climate denial and support for the fading coal industry. America's cities are at the vanguard of that revolution: more than 200 U.S. municipalities have declared that they are "still in" on meeting the Paris targets. And dozens of cities—large and small, in red states and blue states–have pledged to shift by midcentury from dirty fossil fuels to 100 percent clean, renewable energy.

The clean energy and sustainability sectors are robust engines of US job growth— employing at least four million Americans, up from 3.4 million in 2011. Already, there are more US jobs in solar energy than in oil, gas and coal extraction combined. And jobs in solar and wind are growing at a rate 12 times as fast as the rest of the US economy.

And, as you will see, the federal leadership vacuum has spurred robust action at other levels of government. For example, the Southeast Florida Regional Climate Change Compact has put together a Climate Action Plan that shows what regional actors can do with little state or federal support.

In 2017, there was plenty of bad news for people and the planet. But there was much to cheer, as well. Even in these times—especially in these times—people are rising up to resist the status quo. We invite you to draw inspiration from their work, and join the struggle for a sustainable, equitable future.

SECTION I

Climate Change and Adaptation

Trump is Wrong About Climate Change, and Jobs Too

Laurie Mazur

Published March 31, 2017 in Lexington Herald-Leader

Donald Trump rode to the White House promising to bring back jobs for working-class Americans. But dismantling federal efforts to address climate change will make it harder to deliver on that promise.

On March 28, President Trump issued an executive order to roll back a decade's worth of climate policy. The order guts the Clean Power Plan, opens federal lands to mining and drilling, and removes climate considerations from policymaking. Trump says the executive order will save American jobs, in part by reviving the beleaguered coal industry. Flanked by coal miners as he signed the order, Trump declared, "You know what this says? You're going back to work."

But energy experts say weakening environmental laws won't bring back coal miners' jobs, which have been lost to mechanization and competition from abundant natural gas. Even coal industry executives agree: Richard Murray, the founder and CEO of coal giant Murray Energy, recently warned President Trump against promising new jobs in coal. "I suggested that he temper his expectations," Murray recalled. "Those are my exact words. He can't bring them back."

By attempting to prop up a fading industry while ignoring the real issue of climate change, the Trump administration also ignores the job-creating potential of efforts to prevent—and prepare for—a changing climate.

The clean energy and sustainability sectors are robust engines of U.S. job growth. Those sectors now employ at least four million Americans, up from 3.4 million in 2011. They are good-paying jobs, from entry-level installers to engineers and architects. Already, there are more U.S. jobs in solar energy than in oil, gas and coal extraction combined. And jobs

in solar and wind are growing at a rate 12 times as fast as the rest of the U.S. economy.

While we gear up to prevent climate change, we must also acknowledge that a certain amount of climate disruption is now inevitable—a legacy of past greenhouse gas emissions. Indeed, climate disaster already takes a huge toll on our nation's economy—$46 billion in 2016 alone, according to the National Oceanic and Atmospheric Administration. There is much we must do to prepare our communities for rising seas, stronger storms, and sweltering heat waves.

One way to do so is with "green infrastructure"—rain gardens, street trees and bioswales that help absorb stormwater and keep cities cooler. A new report, *Exploring the Green Infrastructure Workforce*, shows great potential for job growth, especially for low-income, low-skilled workers. Already, hundreds of thousands of full-time workers are employed in this field. Median salaries in the field are more than twice the federal minimum wage, with opportunities for career growth and advancement.

President Trump wants to create jobs, particularly for Americans left behind by an increasingly globalized economy. That's a laudable goal. But we won't get there by ignoring climate change, or by looking nostalgically to the past. Instead, we must take a clear-eyed look at the challenges and opportunities of the future—because that's where the jobs are.

Scientists Must Earn and Maintain the Public's Trust

Ann kinzig

Originally published April 1, 2017 in Houston Chronicle

By proposing draconian cuts to medical research, the Trump administration threatens a large—and growing—pillar of the Houston-area regional economy. Worse, those cuts are part of a larger assault on science. Today, federal scientists are threatened with limits on what they can research, publish and even what they can post on Twitter. And then there is the movement that elected President Trump, which has been widely characterized as a revolt against "elites"—a group to which scientists arguably belong.

In response, Houston's scientific community is planning a March for Science on April 22—Earth Day—in concert with marches around the country. Organizers of the march say it is time for people who support scientific research and evidence-based policies to take a public stand and be counted.

Fellow scientists, we are right to feel threatened. At the same time, if we are honest with ourselves, we must accept some responsibility for this state of affairs. We have not created "alternative facts," but we have taken some steps down this slippery slope, allowing subjective interpretations to masquerade as objective facts. If even scientists are willing to step onto this slope, is it surprising that some members of our society end up at the bottom?

We must admit that we sometimes oversell the value of facts. Irrefutable facts are rare; most science is awash in uncertainty. And, even where empirical evidence is strong, facts do not translate into neat policy prescriptions. That is because there isn't a single significant challenge facing our society that can be decided on facts alone. Instead, we are always selecting among competing values. When we assert the science alone can tell us what to do, we take a step down that slippery slope.

Take climate change, for example. Science tells us that the climate is changing and that human activity is to blame. Beyond these facts, we quickly enter the realm of interpretation—about what the impacts will be, and about the actions we must take. We simply cannot take such projections and analyses as "facts." There is uncertainty surrounding our projections; not everything that will influence global economies and local livelihoods has been accounted for in our models.

Furthermore, policy choices on climate require weighing various public goods—environmental protection, economic growth, public health, jobs in various sectors—that are sometimes in conflict. There is no single, inarguable "best pathway" into the future. And yet scientists often have asserted that we know exactly what must be done to address climate change.

As scientists, we must be scrupulously honest about the limitations of empirical evidence. This requires a certain amount of humility, an admission of what we do not know. We must be careful to delineate where facts end and values begin. And we must recognize that value judgments invariably involve tradeoffs, with real-life winners and losers.

In the heat of a War on Science, admitting the limits of empirical evidence may seem like unilateral disarmament. Our opponents do not admit uncertainty, and they rarely play fair. But now—especially now—it is critical to earn and maintain the public's trust. So yes, we scientists should take to the streets on April 22. But in the long run, honesty and transparency is the best way to preserve the integrity of science—and its future.

South Florida's Compact is a Model for Local Climate Solutions

John Dos Passos Coggin

Originally published July 26, 2017 in Tampa Bay Times

The White House denies the reality of climate change. It pursues a U.S. withdrawal from the Paris accord. It has removed climate change from its mission across federal agencies. Some state governments, such as Florida's, are equally defiant of the scientific consensus and look to the White House for cover. But many localities across the country are addressing the climate crisis, investing in mitigation and adaptation policies that will save lives and protect critical economic assets.

The Southeast Florida Regional Climate Change Compact is an example of the impact that regional actors can make with little state or federal support.

The compact is an agreement adopted by the Broward, Miami-Dade, Monroe and Palm Beach county commissions in January 2010. Dozens of municipalities within these counties have joined the compact. The founding counties, home to nearly 6 million residents and 30 percent of Florida's population, have recognized the stakes of climate change for their region.

The compact founders and their partners understand the havoc that climate change will bring to South Florida, a region whose economy is based on sand, sun and waves—a region whose tourist destinations must match the dreamy picture postcard of American mythology to survive.

Planners from West Palm Beach to Key West know that three-fourths of the state's population lives in coastal counties that generate 79 percent of the state's annual economy. According to the Florida Oceans and Coastal

Council, these counties represent a built environment and infrastructure whose replacement value in 2010 was $2 trillion and by 2030 is estimated to be $3 trillion.

The compact's Unified Sea Level Rise Projection, updated in October 2015, projects sea level rise of 6 to 10 inches by 2030, 14 to 26 inches by 2060, and 31 to 61 inches by 2100.

Long-term sea level rise will endanger coastal real estate, which is connected to tourism and local property tax revenue. Should the coastal real estate market collapse due to sea level rise, counties and cities could see their revenues evaporate just when critical infrastructure investments are most urgent.

But that's just one of many conceivable nightmares for South Florida.

Hotter, longer summers mean higher energy bills. They also create good growing conditions for mosquitoes and mosquito-borne illnesses like Zika. Rising sea levels mean more saltwater intrusion into the local aquifer, harming drinking water. Commercial and recreational fishing are at risk. So are coral reefs, which are economic assets as well as aesthetic ones; from 2013 to 2014, John Pennekamp Coral Reef State Park, in Key Largo, generated $65.5 million in direct economic impact.

The centerpiece of the compact is the Regional Climate Action Plan. Implementation has been successful across South Florida, as cities and counties share best practices and reduce their carbon footprint.

Monroe County, home to the Florida Keys, will soon conduct surveys of all county roads. With this and other data, it will be able to determine how much to adjust road elevation in preparation for rising sea levels.

Monroe County is also addressing carbon emissions. It is targeting a reduction in greenhouse gas emissions of 40 percent by 2030 using a 2012 baseline. Monroe County has already achieved a 20 percent emissions reduction from a 2005 baseline.

Miami Beach is transforming its stormwater system and elevating roads. The conversion of the old gravity stormwater system to a pumped system, an adaptation to sea level rise, is estimated to cost $500 million.

Work on the pumped system began in 2014 with the goal of finishing in five to seven years.

The work of the Southeast Florida Regional Climate Change compact is essential. Its adaptation and mitigation effort supports Florida's economy. Recently, the cities of Miami and Boca Raton formally joined the compact, strengthening its influence.

The compact should be a national model for how regional actors can address the climate crisis, despite White House intransigence.

Interdependence and Its Discontents

Shade Shutters and Laurie Mazur

Originally published May 2, 2017 in Quartz

A few years ago, a man named Mike Vilhauer was fishing near Sunset Lake, in California's Sierra Nevada mountains. He wandered into the woods to look for bait, and promptly got lost. For the next five days, he lived off the land—drinking from a stream, sleeping in a rocky cave, eating the occasional dandelion. After Vilhauer's rescue, national and international news outlets breathlessly described his "fight for survival," "against the odds."

Vilhauer's survival seems like an impressive achievement, until you stop to consider that he was simply doing what humans did, day in and day out, for most of the last 200,000 years. Of necessity, our distant ancestors had wide-ranging survival skills: they foraged, hunted, herded, and built shelters. It's only in the last few millennia that we have taken on increasingly specialized roles. Today, we are fry cooks and nuclear physicists, bloggers and plumbers—but few of us retain the general skills that were once a prerequisite for survival.

This is *interdependence*, which now defines us—as individuals, communities, and nations—as never before. Interdependence means that we don't all have to farm, or build houses, or make semiconductors. Instead, our complex social systems rely on the division of labor and exchange of goods and services to meet human needs. When people concentrate their labors on what each does best, all of society benefits—or so said Adam Smith in 1776 at the dawn of modern economic thinking.

A few years later David Ricardo extended this idea to nations, claiming that if each country focuses its production capacity on what it does better than anyone else—exploiting their comparative advantage—all nations will be better off. Later, this thinking became a pillar of the post-World War II international order. Interdependence theory—which holds that nations that depend on each other economically are more likely to work

harmoniously together—has shaped thinking in Washington for almost three-quarters of a century.

Interdependence has obvious upsides. It is wondrously efficient, as it removes the redundancies of effort involved when everyone has to, say, can their own fruit—or when every nation has to grow its own rice or mill its own steel. And interdependence has coincided with an extraordinary period of peace and prosperity in the industrialized world.

But there are downsides as well. As a society's efforts are divided into ever more discrete tasks, each member of that society becomes ever more dependent on others for the production of social goods and, ultimately, for survival—as Mike Villhauer learned on his ill-fated fishing trip.

Interdependent societies are more connected and integrated, but they are also more fragile, more brittle, and more vulnerable to cascading failures. So while highly integrated societies can accomplish feats that no group of unspecialized laborers could dream of, they do not do so well when subjected to shocks such as earthquakes, epidemics, financial crises, and political conflict. A generation ago, such shocks generally had only local effects. But in today's hyper-connected world, a disruption in one place can swiftly cascade across the entire planet, threatening global supplies of goods and information. That's what happened after the Tohoku disaster in Japan in 2011, the Wall Street crash of 2008, and the SARS epidemic of 2002. Accordingly, the World Economic Forum has warned of "the prospect of rapid contagion through increasingly interconnected systems and the threat of disastrous impacts."

If your community is tightly entwined with global markets, it is vulnerable to impacts from distant disasters. In one recent study, researchers measured the economic interdependence of 364 US metropolitan areas; they then looked at how those cities fared during the Great Recession. The researchers found that the most integrated, interdependent cities (typically also the largest cities) suffered greater drops in economic performance and took longer to recover than their less-integrated counterparts.

Interdependence can pose geopolitical threats, as well. Our economic ties to other nations expose us to potential acts of coercion and extortion by key trading partners. Two decades ago, no nation had the capacity to cut off the flow of critical materials or information to the US population.

Today, a simple embargo or blockade could halt the supply of vital drugs, electronics, and financial information.

That danger is real and present. A recent RAND Corporation report, prepared for the National Intelligence Council, found that China has quietly cornered the market on raw materials that lay at the base of most high-tech manufacturing supply chains. For example, China now controls 97% of the world's supply of rare earth elements, which are essential to manufacturing everything from iPhones to advanced military technology. That gives China extraordinary leverage over the US economy and national security. It is not difficult to imagine a scenario (a trade war; escalating tensions in the South China Sea) where such leverage would come in handy.

These dangers do not, however, warrant a wholesale retreat from interdependence. This is not an endorsement of Trumpist "build the wall" isolationism and nationalism. It would not serve us as individuals, or as a nation, to wall ourselves off from the rest of humanity in pursuit of self-sufficiency. That path could leave us isolated and friendless in a dangerous world. And it would dampen the dynamism that comes with global trade in goods and ideas.

As with any set of trade-offs, there is a sweet spot to be found—somewhere between hyper-connectedness and rigorous self-sufficiency. What might that look like?

For individuals and families, it could mean planning for inevitable disruptions—natural, social, and economic. Not by moving to a survivalist compound, but by developing small-scale, local backups for the globe-spanning systems that supply essential goods and services. Begin by considering how you would obtain the essentials—food, water, and power—if supply chains are cut off.

Often, solutions are best generated at the community level. For example, small-scale "microgrids," powered by renewable energy, offer an increasingly viable alternative to the huge but fragile mega-grid that supplies most Americans with energy. That's how Co-op City, a housing complex in the Bronx, kept the lights on during Superstorm Sandy in 2012.

Similarly, robust local food networks can keep food on the table in times of crisis. Though local food now accounts for a small share of

American agricultural markets, that can change quickly: During World War II, Americans planted "Victory Gardens" to help the war effort and produced 40 percent of the vegetables grown in the US.

At the national level, we can work to decrease dependence on China and others for raw materials. And we can place limits on the outsourcing of key industries, while nurturing a diverse industrial base in the US. Some industries already enjoy protection from global competition; for example, the American shipbuilding industry is propped up by legislation that prevents naval warships from being built outside the US. In this and similar cases, costs to efficiency may be counterbalanced by gains in national security and economic resilience.

It won't be easy to strike the right balance between of self-sufficiency and interdependence. But it is important to get it right. Otherwise, like Mike Vilhauer, we may find ourselves wandering in the woods, fighting for survival against the odds.

President Trump's Climate Inaction Sells the Future Short

Keith Kozloff

Originally published April 22, 2017 on Resilience.org

This weekend, thousands of scientists and concerned citizens from across the globe will take to the streets to defend the vital role science plays in our health, safety, economies, and governments. Coinciding with Earth Day (April 22), this international March for Science will take place less than a month after President Trump signed an executive order aiming to decimate his predecessor's scientifically sound policies on climate change.

In the cacophony of bad climate stories recently, you'd be forgiven for missing the news that one casualty of Trump's order was the social cost of carbon (SCC), a measure that's been called "the most important number you've never heard of." The SCC captures the estimated costs of climate disruption from things like sea-level rise, storms, fires, crop failures and rising death rates. Before Trump's order, federal agencies were required to consider these costs when designing relevant policies and programs.

While it is difficult to put an exact price tag on future costs from a disrupted climate, a federal court affirmed last August that the current SCC estimate ($36 per ton of CO2 emitted) is based on sound science. Mr. Trump's executive order would effectively reduce that figure to close to zero. This will hamstring US efforts to protect future generations from climate disruption.

To understand why, consider an analogy. Let's say that in 2018 scientists discover an asteroid as big as the one that killed off the dinosaurs—and it's headed our way. NASA says there is a 25% chance the asteroid will collide with the Earth in 30 years' time. Fortunately, a new technology could gradually shift the asteroid's trajectory if launched

in time. It's expensive: the required investment would be an order of magnitude larger than spending on our moon program. And the effort would need to begin immediately: If the US waits to be sure that the asteroid will hit the Earth, it would be too late to nudge the asteroid from its path of destruction.

To decide what to do, government economists conduct a conventional cost/benefit analysis. The cost side of the equation consists of developing and deploying the asteroid-deflecting spacecraft. Benefits consist of estimated damages to human life, property, etc. that would be avoided if the project moves forward. Economists count only benefits to the US, discount them heavily because they accrue far in the future, and adjust them for the 25% probability of impact. Based on this analysis, politicians—who are always reluctant to pay for benefits that accrue after they leave office—decide not to act. As luck would have it, the asteroid slams into the Earth in 2048.

Today, we face a similar choice regarding global climate change—another problem that requires near-term investments to prevent potentially unthinkable long-term costs. Cost/benefit analysis can be a useful tool, among others, for decision-making on climate policy. But President Trump's executive order calls for federal agencies to apply the same constricted approach used by government economists in the asteroid analogy.

To support sound climate policies, the SCC should continue to be used, refined, and updated as evidence accumulates on climate-related damages. Maintaining a robust SCC would help to ensure we do not discount the lives and well-being of future generations, who cannot argue the case themselves. If they could, they would likely argue that even a low risk of incurring unacceptable costs warrants action. This is the same logic that guides expenditures around other threats to our national security, such as international terrorism.

As we prepare to march this weekend, it's critical that we realize climate disruption is our asteroid. We do not know its exact trajectory, so we can't be sure our interventions are needed to prevent disaster. Future generations, looking back, may forgive us if it turns out we acted unnecessarily. If we instead fail to act when we should have, our children's children will be less charitable in their assessment.

SECTION II

Health, Food, and Water

Fight the Attempt to Kill the Clean Water Rule

Rebecca Wodder

Published March 23, 2016 in USA Today

In his February address to Congress, President Donald Trump promised clean water for all Americans. Why, then, is his administration intent on dismantling protections that cover a third of the nation's drinking water?

Trump has directed the Environmental Protection Agency and the U.S. Army Corps of Engineers to rescind or revise the Clean Water Rule. Doing so would eliminate protections for small streams and millions of acres of wetlands.

Drafted by the Army Corps and EPA during the Obama administration, the Clean Water Rule clarifies which bodies of water are protected from pollution. The rule was developed through a yearslong process that included hundreds of public meetings and input from more than a million citizens.

Let's take a moment to remember why such regulations are necessary. A half-century ago, America's waters were in serious trouble.

In the early 1970s, two-thirds of the nation's lakes, rivers and coastal waters had been declared unsafe for fishing or swimming. Untreated sewage and industrial wastes were dumped into rivers and bays; fish kills were common; and—in at least one memorable instance—an oil-fouled river actually caught fire.

In response, President Richard Nixon signed the Clean Water Act in 1972, with strong bipartisan support. The act regulates what can be dumped into the nation's rivers, lakes and coastal waters, and sets standards for water quality. It has kept billions of pounds of pollution from

the nation's waters and greatly increased the number of waterways that are safe for swimming and fishing.

However, in the decades after the act's passage, polluting industries have mounted a series of legal challenges, creating confusion over which waters are covered. A pair of Supreme Court decisions further muddied the waters.

The Clean Water Rule was developed to change that by providing regulatory clarity and a nationwide standard to protect water sources. Unfortunately, the rule has been tied up in litigation since it was announced in 2015. Now, Trump wants to do away with it altogether.

The Clean Water Rule takes an upstream approach to protecting drinking water. It protects small headwater streams whose waters eventually flow from our taps. And it safeguards wetlands that provide a valuable free service by filtering out contaminants that would otherwise need to be removed from our water.

Without those protections, the quality of our drinking water will suffer. The cost of water treatment will go up, as will water bills. Rising costs will hurt low-income families that are already struggling to pay their water bills.

What can you, as a concerned citizen, do? First, look into your community's drinking water supplies: where your water comes from, what is polluting or threatening your water, and who is fighting to protect clean water in your community.

Then make your concerns known to your elected representatives in local, state and federal offices. Demand that the Trump administration and Congress ensure affordable, clean water for all Americans.

After all, clean water is—and must remain—a big part of what makes America great.

Milwaukee is Showing How Urban Gardening Can Heal a City

Laurie Mazur

Originally published October 4, 2017 in Civil Eats

It's a chilly spring morning in Milwaukee; rain falls softly from a pigeon-gray sky. Yet here, in a parking lot in a rundown section of town, a couple dozen volunteers have assembled for the Victory Garden Initiative's (VGI) ninth-annual "Blitz." They will spend this soggy Saturday building raised-bed gardens in yards across town—from the suburbs to the urban core. Over the course of the two-week event, they will prepare more than 500 beds, adding to the 3,000 gardens VGI has already installed throughout the city.

A few weekends later on the north side of town, more than 100 people gather for movie night in Alice's Garden, a public urban farm. Picnickers spread out on a grassy area, surrounded by fragrant herbs and neat raised beds, while a group of girls dance to Lil Jon's "Turn Down for What." As the moon rises, they will snuggle up on blankets to watch *Moana* on a portable screen.

This is what community gardening looks like in Milwaukee, a Rust Belt city that has become a hive of urban agriculture over the last few decades.

In addition to a multitude of backyard plots, this city of nearly 600,000 residents boasts 177 community gardens, 30 farms, and 26 farmers' markets—more, per capita, than any other American city. Thanks to city council legislation, residents can sell produce they grow in their home gardens at farm stands and markets and are allowed to keep chickens and bees in their yards. Concurrently, a half-dozen "farm-to-table" restaurants have sprung up in the last decade.

Milwaukee's vibrant food culture is a bright spot in a city that's working hard to reinvent itself. Like much of the industrial Midwest, Milwaukee

has been hemorrhaging manufacturing jobs since the 1960s. Almost 30 percent of the city's population lives in poverty—twice the rate for the nation as a whole.

Racial tensions are palpable here as well. As the most segregated metropolitan region in the country, Milwaukee is statistically one of the worst places for African-Americans to live. Last summer, after a police officer shot Sylville Smith, a 23-year-old Black man, during a traffic stop, the city was convulsed by the worst racial unrest in 50 years.

Despite the city's difficulties, a number of factors have positioned Milwaukee to become a pioneer in urban gardening. First is its location in a farm state with several colleges of agriculture and public health and an active cooperative extension system, which started promoting urban agriculture back in the 1960s—before it was cool. Second, there's its surplus of vacant lots, remnants of the Great Recession, often used as growing spaces.

Additionally, Milwaukee is home to several urban agriculture champions. Tom Barrett, who has served as Mayor since 2004, supports all things green and sustainable. And urban agriculture icon Will Allen, founder of Growing Power, also looms large in this city's food movement. Allen showed it is possible to produce astounding quantities of food year-round in unpromising urban environments, winning a MacArthur "genius award" in 2008 and making TIME's list of 100 Most Influential People in 2010. He now trains gardeners across the country and the world.

While some of Milwaukee's active urban gardeners have been at it for decades, following traditions passed down through the generations, others—fed up with what they see as a broken food system—have turned to the soil more recently.

Despite their varied backgrounds and histories, Milwaukee's gardeners share many goals, both practical and profound: They want to feed their families healthful, nutritious, affordable food; they want to reconnect with the land, with their history, with one another; and others even hope to heal divisions that have plagued Milwaukee—and our nation as a whole. Is urban gardening the key to making that possible?

Garden Leaders on a Mission

Named for the gardens Americans planted during the first and second World Wars to free up resources for the war effort, the Victory Garden Initiative has come a long way from its ragtag start.

Today, with a staff of five and dozens of loyal volunteers, the group makes backyard gardening accessible to virtually anyone in Milwaukee. For a small fee—as little as $20 for low-income residents—VGI will build a raised bed, fill it with soil, and follow up with seeds and gardening lessons. VGI also maintains a 1.5-acre urban farm, trains food leaders and young gardeners, and plants fruit and nut trees throughout the city.

Dressed in a flannel shirt and ripped jeans, her long gray-blond hair pulled into a messy bun, executive director Gretchen Mead has a clear vision of what "victory" means today: She wants to see communities grow their own food, creating a socially just, environmentally sustainable, nutritious food system for all.

Venice Williams, executive director of Alice's Garden, which hosted the movie night, also believes in the transformative power of gardening, though she bristles at the idea of the garden project as part of the "food movement."

"It's not a 'movement,'" said Williams, a Pittsburgh native of African-American and Choctaw descent who speaks with the cadences of a preacher (she is, in fact, a Lutheran minister). "There's nothing I'm doing that my family hasn't done for generations. That's true for so many in my world, who have kept gardening in backyards, front yards, driveways—a hosta here, a collard there—but without the recognition or the paychecks or the grants."

Inside Alice's Garden gates, there are 122 irrigated garden plots that can be rented for $15 to $50 a year. There are also yoga classes, movie nights, reading circles, a jobs program for teens, and an annual women's full-moon retreat.

On any given summer day, Alice's Garden hosts visitors with varied backgrounds and purposes: Laotian immigrants tend their cabbages and chilies, adults with alcoholic parents share their stories in a circle, the

elderly son of Mississippi sharecroppers passes down ancestral wisdom to "herbal apprentices."

"We use the garden as the carrot—pun intended—to get people to come through the gates, and impact their quality of life," Williams said. "Do we need to come back to healthier living across the board to address our isolation, our brokenness? Yes. Can community agriculture help? Without a doubt."

Many Reasons to Till the Soil

Milwaukee's urban gardeners are indeed a diverse lot, as are their motivations.

For some, it's simply about the food. "It just tastes better than the stuff you get at the grocery store that's traveled 2,500 miles," said one VGI volunteer, a self-described conservative.

Gardening is a viable option for those who want to eat organic food but can't afford to shop at Whole Foods. "It's good to actually know that there's no pesticides on it, that it's fresh and real," said Judy, a recipient of a raised-bed VGI garden in her yard.

Additionally, gardening gets people off the couch and out of the house. "Most of us go from our house boxes to our car boxes, and we just don't go outside," said Lyness Barnette, a volunteer at VGI's urban farm.

For Sid Singh, a doctor in a local hospital volunteering during VGI's Blitz, gardening conjures memories of his childhood in India, where his family maintained a small kitchen garden. "I would pick vegetables right off the plant and eat them," he recalled.

Growing traditional foods can root members of Milwaukee's growing refugee community in their new home. "Refugees come here and they are totally out of their element," said VGI's Mead, who has recently helped install garden beds for refugees from Syria. "They only get support for a short time. A lot of them come from farming backgrounds, so gardening can help them feel at home. It's a way to help them succeed."

Tim McCollow, program manager of Home Gr/own Milwaukee (also known as "the Mayor's food guy"), ticks off well-documented benefits of

healthy, green spaces: stabilizing crime, raising property values, helping people eat better. And gardens can cement community.

"They help folks on the block get to know each other, care about each other, watch out for each other," said McCollow. "It brings the generations together, with grandparents teaching kids how to garden."

Raising the next generation of gardeners (and eaters) is also important to Antoine Carter of Groundwork Milwaukee, which has helped build 95 gardens and orchards throughout the city. Instead of hiring contractors, Groundwork employs neighborhood youth. It's an opportunity to instill habits that can last a lifetime, says Carter. Some of the kids Carter has mentored have gone on to work on food and environmental issues. "But I'm just happy if they eat better, appreciate greens, and shop at farmers' markets," Carter said.

Scaling Up Urban Agriculture Efforts

None of these benefits are easy to measure. It's hard to say whether gardening makes a dent in Milwaukee's level of food insecurity or a substantial improvement in public health. McCollow said the city—and others involved in local food production—"are too busy doing to measure."

But one could measure success by the growth of the Milwaukee Food Council, an umbrella organization for local food groups, whose membership grew from 20 to more than 60 over the last few years.

And in surveys, more than half of VGI gardeners say their backyard gardens supply 25 percent of their fruits and vegetables. "Here's what we can say for sure, more people in Milwaukee are growing their own food," said Mead.

Still, it's likely that backyard and community gardens account for a small fraction of the food people eat—even in a local food mecca like Milwaukee. Many wonder if there's a way to grow that percentage.

Tim McCollow is working to scale up hyper-local, homegrown food to offer an alternative to the industrial food complex, in part by removing the hurdles gardeners face. In partnership with Groundwork, McCollow's program makes it easy for would-be community gardeners to acquire land. The city is helping install rainwater storage systems and is looking into

fitting the area's abandoned warehouses and industrial sites with grow lights to enable year-round production.

Will Allen of Growing Power also supports scaling up urban agriculture. Rather than tinkering at the edges of industrial food, he wants to remake the whole system.

"This is not a movement anymore. It's a revolution," he said. To that end, Growing Power has pushed the envelope of intensive agriculture. At its peak, its 20 farm sites in Milwaukee and Chicago have produced more than 1 million pounds of food a year on just 300 acres. Allen has made it a priority to bring that bountiful harvest to the most underserved areas—low-income communities of color where liquor stores are plentiful and supermarkets few.

Allen's vision of a thriving local food sector has fired up a new generation of food and gardening entrepreneurs—people like Damian Coleman, CEO of ELYVE Organics, a company that composts food waste from stores and restaurants and sells the final product through garden centers and nonprofit groups.

For Coleman, local food is more than a business opportunity: it's part of his vision of an economically thriving, recession-proof African-American community. "If you grow your own food, there's no grocery bill," he said. "If you have solar panels on your roof, there's no electric bill. It's up to people in the community to realize that vision. We can't wait for someone to come in to the neighborhood and say, 'This is what you need.'"

Embodying and Transcending Tensions

Big and small, nonprofit and for-profit, Milwaukee's urban gardeners have created something larger than the sum of their parts. "It may seem like the groups are disjointed, working on their own thing," said Antoine Carter of Groundwork Milwaukee. "But we support each other."

Milwaukee's racial and class tensions are—perhaps inevitably—present within the city's community of gardeners. "There are 'haves' and 'have-nots' who value healthy local food," said Carter. "But the haves will always look a certain way at the have-nots."

"Racial tensions are so high that everything you do—or don't do—is looked at through a racial lens," added Mead of VGI.

While Milwaukee's urban gardeners embody those tensions, they also, on occasion, transcend them. Working together, or just hanging out, the crowd at Alice's Garden spans the rainbow of humanity.

"There are people who would never have met one another if they hadn't come through the gates of this garden," said Venice Williams. "I've always thought that if the world outside these gates was more like inside, this city would be a different place."

Outside those gates, we're still a long way from a just and sustainable world. Given that reality, community gardening, on its own, can't make us whole. But, as Williams observes, "When you cultivate community along with food, any context can be transformed."

Water Systems Are in Crisis. How Can Funders Help?

Laurie Mazur

Originally published October 11, 2017 in Inside Philanthropy

Whether they are knee-deep in floodwaters or their tap water is unsafe to drink, millions of Americans face serious water challenges.

Catastrophic floods—such as those caused by Hurricane Harvey—are on the rise, especially in the East and Midwest. Out West, the problem is one of scarcity: For example, one million Californians lack access to safe and reliable drinking water. Lead-tainted water is a public health crisis in Flint, Michigan, and other industrial cities. And across the nation, drinking water infrastructure is nearing the end of its useful life—earning a "D" grade from the American Society of Civil Engineers. Climate change, which brings supercharged storms and sea-level rise as well as searing drought, is making these problems harder to solve. And low-income communities are hit "first and worst" by every kind of water crisis.

What role can philanthropy play in solving these complex and costly problems? A new analysis, the *Climate Resilient & Equitable Water Systems Capital Scan*, shows that private foundations can accelerate solutions like green infrastructure and disaster preparedness. And with integrated investments and grantmaking, funders can stimulate the flow of capital to address our nation's systemic water challenges.

Authored by Mission Point Partners and California Environmental Associates, the scan was commissioned by the Kresge Foundation to identify opportunities for philanthropic investment in the water sector. The scan also shows how to leverage resources beyond philanthropy, through integrated strategies that encourage collaboration among funders, water system managers, policy makers, NGOs and community groups. "Philanthropic capital can be a catalyst for that work," says Kim Dempsey, deputy director of Kresge's Social Investment Practice.

The flooding that followed Hurricanes Harvey and Irma underscores the urgency of problem, especially in vulnerable low-income communities. During the recent storms (like Katrina and Sandy before them), low-income residents lacked the resources to prepare for the worst, evacuate when danger was imminent, and repair or replace their housing after the flood. Communities of color are most likely to be displaced by climate disaster.

"While nothing could have fully prepared the Southeast for the catastrophes of Harvey and Irma, there are concrete steps that municipalities, utilities and developers can take right now to better protect low-income residents from the storms and flooding we increasingly see in the era of climate change," said Jalonne L. White-Newsome, senior program officer with the Kresge Foundation's Environment Program. "This capital scan shows how philanthropy can support those efforts."

The most effective philanthropic strategies for protecting at-risk communities consider a full suite of capital tools—including grants, program-related investments and market-rate investments. The scan identifies opportunities to use new models, catalyze markets, leverage capital and understand risk. Six high-impact investments emerge as priorities:

- Green infrastructure—including bioswales, permeable pavement, wetlands and rooftop gardens—is an excellent solution for urban stormwater management, and provides important health and community co-benefits. It is especially beneficial in shrinking cities with combined sewer overflow mandates and a high risk of flooding. Accordingly, green infrastructure is identified as the highest-ranking strategy within the scan's scope of inquiry.

- Planning and preparedness, specifically for water management and resilience in the face of climate impacts, is critical for mitigating the damage caused by floods.

- Water monitoring, including real-time and static monitoring of water use and system stressors, can flag threats to water quality or quantity while improving efficiency.

- Energy efficiency reduces the power needed to move water from source to end user, lowering costs and cutting greenhouse gas emissions from energy generation.

- Water efficiency makes the best use of scarce resources by reducing leaks and offering incentives to save water.

- Distributed treatment and supply options—such as rainwater harvesting, greywater reuse and desalination—can keep the taps flowing in a building or neighborhood, even when larger water systems are shut down.

For each of these investments, the capital scan highlights opportunities in the pipeline, as well as barriers to implementation. For example, the scan shows that green infrastructure technology is mature and ready to be incorporated into stormwater management projects with financing from environmental impact bonds or community-based public-private partnerships. But barriers remain, including high operation and maintenance costs, data gaps on cost effectiveness at scale, lack of know-how and a limited track record of large-scale deployments.

Nonetheless, the *Climate Resilient & Equitable Water Systems Capital Scan* identifies multiple ways foundations can use grants and investments to catalyze improvements in water infrastructure. It's hard to overstate the urgency of the task: Managing water is fundamental to civilization; the threats posed by either too much or too little water could profoundly undermine health and economic well-being—especially for the most vulnerable. In contrast, Kresge's capital scan offers a vision of "a robust water system that promotes greater resiliency in communities that are vulnerable to climate threats, health risks and economic and social injustices."

Philanthropy can help make that vision a reality.

Climate Change Raises the Stakes for Affordable Health Care Coverage

Dr. Richard Allen Williams and Dr. Elena Rios

Originally published January 27, 2017 in The Hill

Today, more than 100 million Americans depend on healthcare safety-net programs: Medicare, Medicaid and the Affordable Care Act (ACA). But that safety net could be shredded if Dr. Tom Price—Trump's nominee for Secretary of Health and Human Services—has his way. Dr. Price has already introduced plans to dismantle the ACA and roll back Medicaid, which would take health insurance coverage away from 22 million Americans, 14 million of whom are low income.

There are many reasons to oppose these plans, but one of the most important is also the most overlooked: climate change.

As physicians, we see our patients suffering as the planet warms. A 2014 survey by the National Medical Association found that a majority of African-American physicians—who often serve low-income communities and communities of color—report that their patients are already impacted by climate change. Those impacts include injury from severe weather, respiratory issues from heat-related ozone air pollution, longer and stronger allergy seasons, insect-borne diseases such as the Zika virus, and mental health problems associated with dislocation and property loss from extreme weather events.

Hispanics are especially likely to experience the negative health effects of climate change. Many of the country's 56 million Hispanics live in coastal areas where sea-level rise and hurricane-driven floods threaten wellbeing through injury, property loss, and waterborne illness. Both African Americans and Hispanics are more likely to live in neighborhoods with higher air pollution levels, which are made worse by climate change. As a result, those communities endure higher rates of asthma, lung cancer and premature death.

The leading cause of weather-related death—heat stroke and heat exhaustion—is on the rise as climate change shatters heat records year after year. Increased heat also exacerbates illness in patients with preexisting heart and lung disease, necessitating more hospital admissions, more visits to the emergency room, and more premature death. The elderly are particularly vulnerable to illness from extreme heat, which leads to rising demand for rehabilitative and nursing home care. These health impacts are not confined to individuals; their harmful social and economic effects ripple outward to families and communities.

The health burdens of climate change are disproportionately borne by low-income communities and communities of color, the same groups that often depend on healthcare safety net programs. As those burdens grow, safety-net programs are more important than ever. Moreover, repealing the Affordable Care Act would wipe out the Prevention and Public Health fund, a critical support for communities to promote health, prevent illness and keep people out of the hospital.

As doctors, and as representatives of the African-American and Hispanic medical communities, we remain committed to healthcare as a human right. We will vigorously reject any legislation to repeal or dismantle the ACA, Medicare or Medicaid. We call on our fellow physicians, healthcare providers and patients to speak up as well, and to defend hard-fought access to quality healthcare for vulnerable elderly and low-income people. We look forward to working with Dr. Price, as the HHS nominee, to keep Medicare, Medicaid, and ACA strong to protect the health of the most vulnerable. With increasing health hazards from climate change, we need these services now more than ever.

Safe, Affordable Water for All—It's Not a Pipe Dream

Lila Cabbil, Steve Burrington and Diana Toledo

Originally published April 29, 2017 in Detroit Free Press

Nearly 18,000 Detroit households face water shutoffs—joining thousands of their neighbors who struggle to live without running water.

Losing access to water takes a dreadful toll on health and human dignity. Researchers found that shutoffs in Detroit are linked to skin and gastrointestinal infections that are more typical in the developing world. When the taps run dry, children stay home because they are embarrassed to go to school unwashed. And parents lose their kids to foster care when homes without water are declared unfit for habitation.

Sadly, the people of Detroit are not alone. From Baltimore to California's Central Valley, poverty and systemic racism combine with other structural problems to place safe water out of reach for many. The challenges are huge: Our nation's water infrastructure is aging, and the cost of repairs could top $1 trillion in the next 20 years. Bills skyrocket as utilities raise rates to make up for declining federal investment. From lead-tainted water in older cities to fertilizer runoff in rural areas, contaminated water threatens health, while the regulations that protect water quality are under attack. And climate change brings new problems—from devastating droughts to supercharged storms—that affect water quantity and quality.

Of course, these burdens are not shared equitably. Whether it's a rate hike or a water main break, low-income communities and communities of color get the worst of it. The rising cost of water crushes the lowest 20% of earners, who pay almost a fifth of their income to the water utility.

But it doesn't have to be this way.

Communities across the country are crafting solutions that are sustainable and fair. Proposed legislation in Michigan would create a residential water-affordability program that adjusts water bills based on household income. Other communities are keeping rates down by conserving water: One utility in Colorado saved so much water through conservation that it avoided a planned 100% rate hike.

The need for infrastructure upgrades presents opportunities to steer investments to hard-hit communities and create jobs. The water utility in Washington, D.C., hires local, minority- and woman-owned businesses as contractors; its Water Works program creates a pipeline for local hiring.

Hundreds of thousands of less-skilled workers are finding good-paying jobs in "green infrastructure"—creating rain gardens and other natural features that absorb storm water and protect water quality. And communities are building resilience to climate change. From Miami to Milwaukee, cities are engaging their most vulnerable residents in planning for a wetter, wilder future.

There is no shortage of practical solutions to Detroit's water problem. But to tackle the problem, we must first see it for the abomination that it is. We must remember that water is not just another commodity; water is life. Access to this vital resource is an inviolable human right. We must acknowledge and abolish the systemic racism that allows some to look the other way when their neighbors are deprived of their rights.

Think Immigrants Are Taking Our Jobs? Try Picking Strawberries for a Day

Michael Carolan

Originally published September 7, 2017 in The New Food Economy

President Trump rode to the White House on a wave of anti-immigrant sentiment—stirred by his frequently repeated claim that undocumented immigrants are (among other things) "stealing our jobs."

Putting aside the hype and the hate, consider agriculture—the sector of our economy that employs the highest percentage of undocumented workers. American citizens are not exactly clamoring for these jobs: One study found that less than 0.1 percent of "legal" job seekers asked to be referred for farm jobs, and of those, less than half reported to work on the first day.

A couple of years back, while in the thick of conducting research for my book, *No One Eats Alone: Food as a Social Enterprise*, I got to thinking that people who believe immigrant laborers are stealing our jobs have never picked strawberries for a living. That stray thought led me to what I now call the "strawberry study," in which a dozen Coloradans from middle-class and higher economic backgrounds got schooled on what it takes to put fresh fruit on their table.

To understand and appreciate where participants ended up, it helps to know a bit about their backgrounds. All lived in or near Fort Collins, Colorado, a community of roughly 165,000 people located 65 miles north of the Colorado State Capital in Denver. Household salaries of this group ranged from $80,000 to $175,000 a year—not an especially rich group, but far from poor. (At the time, medium annual household incomes for the area hovered around $62,000 and average home sale prices had just topped $310,000.) While ethnically homogenous (everyone self-identified as "white"), education levels spanned the gamut: Two never went beyond high school; some reported having two year vocational

degrees; still others possessed four-year university degrees, and beyond. Jobs reported included car sales, registered dietician, electrician, computer technician, accountant, real estate agent, and high school science teacher. Age range: twenty-five to fifty-six.

When interviewed initially, the participants knew very little about how strawberries get from farm to market. Not one could accurately state where strawberries from their neighborhood store came from, which also meant none knew who did the picking. A few mentioned the terms *illegals* and *aliens*; Jeff (the electrician) even went so far as to suggest that "they're stealing our jobs."

Later they were shown a documentary, which at least taught them the names of the top strawberry-producing locations in the U.S. and Mexico and some of the labor conditions common during the harvesting process.

But while they learned to talk about the labor considerations involved in industrial strawberry production, it was not until we all picked strawberries together for seven hours that some participants seemed to feel differently about the effort that goes into harvesting this food. (A lesson for educators the world over: It is often not enough to simply tell people to think, act, or eat differently.)

The day began at sun-up, at approximately 6 o'clock. Gathering together in a circle, drinking coffee and eating donuts—a little incentive to pull them out of bed at that early hour—I immediately noticed everyone's attire. When we last met, I asked that they dress in layers—men in work boots, if they had them. All were told to bring something to cover their heads, like a baseball cap or bandana. While the day was forecasted to be hot, I reasoned that if they were to experience a day in the life of a strawberry picker it would not hurt to dress like one.

The local weatherwoman was right. By early afternoon, the weather app on my phone registered a cloudless 88 degrees. Participants could be seen scattered across the four-acre field, all bent at the same 90 degree angle, a stance that allowed them to pick with both hands. They had seen that picking position weeks earlier when shown the documentary and were asked to replicate it that day. With the hot sun overhead—rays that are especially intense at 5,000 feet elevation—those bent backs had all but disappeared. Before breaking for lunch, many could be seen working from

their knees, a few were sitting, and one was experimenting with an all-fours picking position. The day ended at two in the afternoon, though in truth the actual picking ended earlier as participants found conversation a suitable distraction from the heat.

A week later, after lower backs had time to heal, I met individually with the participants to discuss their experience out in the field. Most talked about being "moved" by the experience. Some painfully so. In the words of Jeff, who made the earlier remark about job theft, "The work was hard as hell!" More than half of the group admitted that the experience gave them pause and led them to think about those who toil, often invisibly, so we can eat.

Participants were also instructed to take pictures while picking. Initially, images were overwhelmingly of people and landscapes: very generic, about nothing in particular other than to chronicle who was there and what the general experience looked like. But as the day progressed, so did the feel of the photographs. By late afternoon, there were selfies of sweaty faces and wet, matted hair; one of a sweat ring in a baseball hat; a pair of soil-stained bare knees; and trays at various stages of fullness held by fingers caked with dirt and stained red.

By the day's end *everyone* had taken photos documenting their physical exertion. For in the end it was precisely that "hard as hell" work that stuck with them long after we left the field for our respective middle-class homes. That work, as I learned during the exit interviews, even made some reevaluate what they thought about the people doing the work so we can eat "fresh" fruits and vegetables. Rebecca, the real estate agent, swore off "industrial strawberries," vowing in the future to buy only local. Another claimed to have bought only Fair Trade strawberries since that day in the field. As for Jeff, the gentleman who had unapologetically called immigrant laborers "illegals," he described how that day "softened" his stance on national immigration policy. "We need them to feed us," he admitted sheepishly.

To put the matter plainly, the experience, for some, created *empathy*.

Social distances have grown so great in countries like the United States that bringing people together for face-to-face encounters is becoming a real challenge. Forget about getting people around the same table to

eat; even getting them to meet in a room is harder than ever. We know, for example, that people with higher social status generally ignore those with less power, a dynamic that has been observed in numerous studies.

But I am hopeful. We need to figure out how to heal today's social divisions in our politics—heck, in our society. Perhaps we can learn from the strawberry study.

They're stealing our jobs! Spoken just like someone who has never met, let alone worked like an immigrant laborer—even if just for a day.

Trump Cutting the EPA WaterSense Program Makes No Sense at All

Mary Ann Dickinson

Originally published June 8, 2017 in The Hill

President Trump promised clean water for all Americans while preserving our natural resources. Yet his recently announced 2018 budget seeks to eliminate or drastically curtail programs that do just that.

It is especially perplexing to see EPA's small but mighty WaterSense program on the chopping block. WaterSense, like its larger predecessor EnergyStar, is a voluntary water product-labeling program that partners with business and communities to enhance the market for water-efficient fixtures and appliances. In this way, WaterSense encourages consumers to purchase products that save water and energy.

In just ten years since its launch, the WaterSense program has already made valuable contributions to building water security for American communities. It has saved more than 1.5 trillion gallons of water, enough to serve all of California's residents for a year. Those savings help protect the nation's water future—ensuring that more water is available for future generations, emergencies and our waterways. Less water used also means less energy used to heat, pump and treat water—thereby eliminating 78 million metric tons of greenhouse gas emissions from our atmosphere.

The blue and green WaterSense logo helps customers easily choose new toilets, showerheads, faucets and irrigation controllers that have been independently certified to perform as well as or better than standard models—while using at least 20 percent less water.

That choice is good for American families that already spend an average of $1,100 per year on water. In fact, it has already saved consumers $32.6 billion in water and energy bills. With water rates rising each year, WaterSense can help families better manage their household expenses.

But WaterSense isn't just delivering more reliable and affordable water to consumers; it's actually driving innovation and supporting economic growth—goals at the core of Trump's platform.

Large American plumbing and irrigation manufacturers have seen their businesses grow by adding WaterSense-labeled products to their portfolios, while start-ups and smaller shops are getting their products to market more quickly, thanks to the clearly defined performance standards and certification process in the WaterSense program. This has resulted in a competitive edge for companies manufacturing American-made WaterSense products. In addition, as water becomes more scarce and expensive, WaterSense can help all businesses reduce their operating costs and increase their resiliency by installing high-efficiency fixtures in their facilities.

WaterSense isn't a mandatory program or an example of overreaching and costly regulations. It is a voluntary, public-private partnership program where businesses and communities opt in to participate.

And they have overwhelmingly opted in. More than 1,700 partners build their businesses and support their communities by participating in the WaterSense program. Nearly 200 of them recently signed a letter asking EPA Administrator Scott Pruitt to continue to fund it into the future.

So how much money is it? WaterSense costs taxpayers a mere $3.1 million per year to run—a meager federal expenditure for a significant economic benefit delivered to businesses and individuals. Continued public investment is key. A product labeling program run by the private sector would lack objectivity and credibility to consumers.

The WaterSense program is the best kind of government program. It leverages a small public investment into big savings for homeowners and businesses, while ensuring secure and sustainable water supplies. Let's make sure it stays in the 2018 budget.

SECTION III

Urban Development

New Urbanism Isn't Dead—But Thanks to Climate Change, It's Evolving

Laurie Mazur

Originally published October 18, 2017 in CityMetric

New Urbanism is dead, writes Bill Fulton on the October issue of *Governing*. Fulton, director of the Kinder Institute for Urban Research at Rice University, says New Urbanist thinking has so thoroughly permeated the mainstream that it no longer needs a movement to champion it.

Not so fast.

Today, the folks who brought us walkable downtowns and transit-oriented development have a new challenge to tackle: climate change. There is an urgent need to reduce carbon emissions while fortifying cities against the supercharged storms, rising seas and blistering heat waves of a warming world. And, in this era of staggering inequality, climate solutions must narrow—rather than widen—the gap between haves and have-nots.

New Urbanists are stepping up to the challenge. Last month, movement pioneers Andrés Duany, Elizabeth Plater-Zyberk, and Peter Calthorpe joined with dozens of others at a Climate Summit hosted by the Congress for New Urbanism (CNU). The challenges outlined there—and the envisioned solutions—could signal the movement's rebirth.

The challenges are stark. According to Edward Mazria of Architecture 2030, carbon emissions must peak by 2020 and cease altogether by mid-century if we hope to preserve a livable planet. And cities, which currently produce 70 per cent of carbon emissions, are expected to absorb more than one *billion* new residents in the next 15 years. "It's like building a city of one and a half million people every week," said Mazria, "So we need to get it right."

New Urbanists have much to contribute to "getting it right." Some New Urbanists—including Calthorpe—have long urged attention to climate issues. And the solutions New Urbanists have promoted for decades (compact, walkable downtowns served by low-carbon transit systems) are among the best means to reduce carbon emissions. Many American cities have used that formula to revitalize their urban cores, bringing a surge of new residents and dynamism.

But it would be premature to declare "mission accomplished". As editor Robert Steuteville explains in The Death of New Urbanism is Greatly Exaggerated, on CNU's Public Square, that urban revival has been paralleled—and even dwarfed—by turbocharged suburban sprawl. Today, about 82m households (out of some 117m) in the US live in low-density areas of about three households per acre, according to Jen McGraw of the Center for Neighborhood Technology. "We have to move that needle to make a difference," she said.

While the original goals of the New Urbanist movement are not fully realized, climate change poses fresh and daunting challenges. Weather-related disasters are proliferating, and the built environment must be retooled for a wetter, wilder future.

Epic disasters like Hurricanes Harvey, Irma and Maria (like Katrina and Sandy before them) illuminate the extraordinary vulnerability of our cities and towns. Yet those named storms represent just a fraction of the problem. The US now averages 129 disasters each year, up from 51 per year before the turn of the 21st century.

In the wake of disasters, there are opportunities to rebuild in ways that both mitigate and adapt to climate change. But those opportunities are typically squandered, said disaster recovery expert Laura Clemons, especially in smaller towns and cities that lack capacity to envision and implement change. Timely intervention by New Urbanists could help.

The New Urbanist response to climate change should not focus solely on technofixes, said Carla Mays of Mays Civic Innovation; it must also embrace social equity. Low-income people and people of color have been devastated by gentrification in "revitalized" cities; now they are impacted first and worst by climate change impacts.

Yet those groups are underrepresented in the New Urbanist ranks, said Mays. "This room does not reflect the diversity of the US," she said. "We are coming to the dance, but we are not dancing yet." New Urbanists must also confront the racially tinged policies that shape land use and infrastructure. "If we don't acknowledge these disparities, we will proliferate them," said Shelley Poticha, director of Urban Solutions at the Natural Resources Defense Council.

Given the urgency and complexity of today's urban challenges, there is a pressing need for integrated, multi-tasking solutions. "We don't have time to solve these problems—racism, climate change—separately," said Douglas Kelbaugh, professor and former dean at the University of Michigan's Taubman College of Architecture and Urban Planning. And, for urbanists to have an impact, they must collaborate with others who are dealing with similar (and different) aspects of this problem. "New Urbanists need a lot more friends," said Poticha.

New Urbanism is certainly not dead, but it is evolving. From the CNU Climate Summit, we can see the broad outlines of what it might become: a movement that marries a vision of livable communities to the necessities of a changing climate. The goal: resilient, equitable, carbon-neutral cities that people want to live in. That's the *new* New Urbanism.

How to Turn Neighborhoods Into Hubs of Resilience

Taj James and Rosa Gonzáles

Originally published April 14, 2017 in Yes!

Think of it as a silver lining to the gathering dark clouds. We live in an era of extraordinary disruption, from the serial crises of a changing climate to the wrenching shifts of a globalized economy. But in that disruption lies the potential for positive transformation.

Addressing climate change requires adapting to the impacts that are already here—heat waves, droughts, superstorms and more—while preventing and mitigating future impacts. Taking these challenges seriously calls for radical changes in the way we live. It calls us to zero out our carbon emissions, and to rethink the systems that shape our lives, including the economy, food and power. It calls us to fundamentally transition from a world of domination and extraction to a world of regeneration, resilience, and interdependence.

It's a tall order, no doubt, but that transition is already underway. In our work with movement builders on the front lines of the transition, we've identified two key guideposts—connectedness and equity—that point us toward the world we want.

Connectedness is the recognition that our well-being is inextricably tied to that of other people and the planet itself. It means there are no throwaway people, no throwaway places, no throwaway anything. In fact, there's no "away"; there's just here. In practice, connectedness is about lifting up the voices of the marginalized, and it means regenerating forgotten places, from industrial brownfields to hollowed-out rural towns and Rust Belt cities. The second guidepost, equity, is about recognizing and repairing the harm generated by situations of extreme power imbalance. Equity is about building power from the bottom up.

When communities are fully engaged in problem-solving, they come up with holistic solutions that address complex, interlocking challenges. Here are three.

Sunset Park, Brooklyn, New York

When Superstorm Sandy ripped through the Eastern Seaboard in 2012, the waterfront neighborhood of Sunset Park was hit hard. Power lines toppled and businesses were shuttered. The neighborhood's industrial district flooded, washing toxic residue into nearby residential areas.

But as the people of Sunset Park worked together to rebuild, a hopeful possibility emerged. What if the neighborhood rebuilt in ways that made the local economy more resilient and equitable, while limiting the impact of climate change? That's the vision of UPROSE, a grassroots environmental justice group that took root in Sunset Park 50 years ago.

"Superstorm Sandy was a real wakeup call for our community," says UPROSE director Elizabeth Yeampierre. "Climate change is here now, and waterfront communities like ours are extremely vulnerable." The neighborhood's low-income, immigrant residents were especially at risk, so in the aftermath of Superstorm Sandy, they turned to UPROSE for a community organizing effort to prepare for a wetter, more uncertain future.

The plan they came up with builds climate resilience while protecting the environment, health, and—crucially—jobs.

The point is not simply to rebuild what was there before; UPROSE members don't want more jobs in the same dirty industries that had polluted the neighborhood for decades. "We have a lot of businesses on the waterfront, and we want to keep them here because people need places to work," Yeampierre says. "But we want safe places to work." To that end, UPROSE has joined forces with labor unions, the Center for Working Families, and business owners to transform Sunset Park's industrial space into a manufacturing hub that produces environmentally friendly building and construction materials, powered by renewable energy. And they are encouraging these industries to hire locally.

It's a plan that addresses many problems at once. In a city with skyrocketing inequality and rampant gentrification, it could help preserve the blue-collar jobs that once anchored the middle class. At the same time, it

could reduce toxic hazards and make Sunset Park a safer, healthier place to live. And it could reduce the carbon emissions that are driving that change.

The process of developing the plan was as transformational as the plan itself. UPROSE consults with residents on the future they want, then arms them with the tools they need to make that vision a reality. Some residents take on the role of block captains and gather input and educate their neighbors on city planning processes. Through partnerships with researchers, residents conduct participatory action research on issues of concern. It's a deeply democratic, holistic approach that builds local power and increases community control over resources—key elements of community resilience.

Buffalo, New York

Left behind by the globalized economy, Buffalo has lost more than half its population since 1950. By 2005, when the community group People United for Sustainable Housing (PUSH) Buffalo was founded, residents of the West Side neighborhood were struggling with unemployment, rampant blight, and high energy costs.

At that time, there were an estimated 23,000 vacant homes in Buffalo. PUSH took on a state housing agency that was using vacant buildings to speculate on Wall Street, and got the buildings turned over to the community—with funding to fix them up.

Next, PUSH brought together hundreds of community residents to craft a plan for a large, blighted area. The result is a 25-square-block Green Development Zone (GDZ), which is now a model of energy-efficient, affordable housing. PUSH and its nonprofit development company rehabilitate homes in the GDZ, installing efficiency upgrades, like insulation and geothermal heating, that dramatically lower residents' utility bills. The organization won a New York state grant to build 46 new homes, including a net zero house, which produces as much energy as it consumes.

The GDZ doubles as a jobs program. Through its construction projects, PUSH has cultivated a growing network of contractors who are committed to hiring locally. And PUSH successfully advocated for New York's Green Jobs-Green New York program, which seeks to create 35,000 jobs while providing energy upgrades and retrofits for 1 million homes across the state.

Across the West Side, PUSH has transformed the urban landscape. In partnership with Buffalo Niagara Riverkeeper and the Massachusetts Avenue Project, PUSH has turned trash-strewn, vacant lots into state-of-the-art rain gardens, small urban farms, and aquaponics greenhouses. These urban oases bolster food security, while providing much-needed green space.

Richmond, California
A predominantly low-income community of color is challenging the oil giant that has long dominated their city.

In Richmond, the 3,000-acre Chevron refinery looms over the city with towering smokestacks and tangled pipes going in every direction. The largest of its kind in California, the Chevron refinery showers Richmond with unpronounceable toxic chemicals and periodic fiery explosions that put residents at risk. As a major source of jobs and tax revenue, Chevron has long held outsized influence on the city's politics. But, fed up with their toxic neighbor, residents are working to counterbalance the company's political muscle.

The first step was to activate community power. A coalition of local nonprofits including the Asian Pacific Environmental Network (APEN), Communities for a Better Environment (CBE), the Alliance of Californians for Community Empowerment (ACCE), the Richmond Progressive Alliance, and Faith-Works brought residents together to devise solutions to community problems.

The coalition organized forums and rallies, held regular learning institutes for decision-makers, and encouraged public participation at planning commission meetings. In this way, residents reshaped their city's General Plan to make Richmond less reliant on Chevron. The new General Plan emphasizes green industries, anti-displacement policies, and better mass transit systems. Now, the coalition is at work translating the plan into projects, programs, and laws.

At the same time, the Our Power campaign in Richmond is working to build community control over essential resources, such as food, land, water, and energy. Our Power partners with Cooperation Richmond, a local co-op incubator and loan fund that helps low-income residents create their own cooperatively owned businesses. The group holds the annual

Our Power Festival, which brings together residents, small businesses, and the public sector to envision a transition to local energy management.

Despite this groundswell of community organizing, Chevron continued to hold sway on the City Council. So the organizers switched to electoral tactics to supporting progressive candidates who would stand up to the oil giant. And it worked. In 2014, despite millions of dollars invested in the election by Chevron, residents voted in candidates aligned with community values and renewable energy.

"Winning political power, especially in this political moment, is critical for communities at the intersection of poverty and pollution," says APEN Action executive director Miya Yoshitani. "If we are going to win back our democracy from the hands of corporations, and win the powerful vision we have for living local economies, we need to invest in organizing the power of the people and the polls in all our neighborhoods."

To Prevent Disaster, Rethink Development

Ed Thomas and Laurie Mazur

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As floodwaters recede, storm-battered Texans, Floridians and Puerto Ricans are taking stock of their losses. While it is too soon for a final tally, it is clear that Hurricanes Harvey, Irma and Maria have taken a dreadful toll in lives and treasure: some 75 people died in Harvey's floodwaters; Hurricane Irma killed at least 20 in the U.S., while at least 16 people have died as a result of Maria in Puerto Rico. Preliminary estimates peg Harvey's and Irma's damage alone at $290 billion.

Unfortunately, there is more where that came from. Flooding is on the rise across most of the US; Houston alone has seen four so-called 100-year floods since the spring of 2015. Perhaps the only thing we can say for sure is that the weather is increasingly uncertain. Yet we continue to build on the coast and in vulnerable floodplains—putting more people than ever in harm's way.

And, as floods become more frequent and damaging, taxpayers pick up a growing share of the tab. We pay first with a tax code that heavily subsidizes poorly designed development in the wrong places. Second, we pay for cleanup and rebuilding through the National Flood Insurance Program, which underwrites coverage for American homes and businesses. There is heated—and necessary—debate about whether the NFIP sufficiently discourages unwise risk.

But a focus on flood insurance misses an even greater opportunity to reduce risk: development.

We are building the future every day: More than half of the built environment we will inhabit in 2025 did not exist in 2000. Through development, we can greatly reduce—or increase—our risk of floods and other disasters. Today, we mostly do the latter.

Sometimes risks are denied: In Florida and elsewhere, coastal development is booming despite well-documented sea level rise. Or risks are not well understood: in Houston, many thought they were safe because their homes were not in FEMA's "special flood hazard area." But, as Harvey made clear, they were very much in the flood plain.

The good news is that—unlike the weather—development is squarely within our control. Decisions about where and how to build are shaped by myriad public and private programs—and these can be used to reduce risk. For example, we can:

Avoid building in danger zones. It seems blindingly obvious, but it makes no sense to build in areas at high risk for flooding—especially with hefty taxpayer subsidies. It happens, though, because waterfront properties are in great demand, commanding premium prices that boost real estate tax income for local governments. We need to change subsidies and incentives so that developers and property owners do not externalize the costs of building in disaster prone areas, and promote land-use policies that discourage poorly designed and constructed building in high-risk areas that are difficult to evacuate.

Raise standards (and houses). For millennia, competent designers and builders have planned for uncertain weather by building stronger for safety. Today, the built environment must be held to higher standards. For example, constructing new housing so that living space is 4 feet above the base flood level adds little to the cost of a home—typically about $5,000. If that had been standard practice in Houston, the vast majority of flood damage from Harvey would have been prevented. Higher standards can be implemented through rebates and other incentives; new "standards of care" for engineering, architecture and other professions; and federal regulations requiring damage-resistant building codes for new construction.

Think before rebuilding. In the wake of disaster, we should resist the temptation to return to pre-disaster conditions. The billions of dollars to be spent in Texas, Florida and Puerto Rico offer an extraordinary opportunity to model safe building practices and reduce risk. In some cases, that means not rebuilding at all: In Tulsa, Oklahoma, for example, the city bought up over 1,000 repeatedly flooded properties, converting them to public parkland. Similar buyouts are now under discussion in Houston and the Florida Keys. And salvaged properties can be retrofitted

for resilience: New York City revamped its building codes after Superstorm Sandy, making it easier to move critical systems above flood levels.

While we are rethinking building practices, why not mandate zero net energy homes that use renewable sources to produce the energy they consume? If that became the norm, we might be able to head off the worst of climate change—and the flooding and other disasters that come with it.

For now, floods are here to stay. But, as the geographer Gilbert White wisely observed, "Floods are acts of God; flood losses are largely acts of man." If we continue to ignore this growing risk, Americans will pay with hard-earned tax dollars—and sometimes, with their lives. But there is an alternative. We can use the power of development to build a more resilient future.

Urban Planning Can't Happen Without Black People in the Room—Yet It Does

Charles D. Ellison

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Sit at the tables where people are deciding where the new high school will go, or whether to expand the bus depot, and you'll probably need to ask, "Where are all the people of color?" In 2017, it is—still—a fact that most of the people who design, plan and build our cities lack the diversity of those same places.

At CNU 25 in Seattle, a distinguished panel of experts confronted this problem. Moderated by Shelley Poticha, Director of Urban Solutions at the Natural Resources Defense Council, the panel featured Ron Sims, former Deputy Secretary of the Department of Housing and Urban Development (HUD); Justin Garret Moore, Executive Director of the New York City Public Design Commission, and Emily Talen, professor of urbanism at the University of Chicago.

Designers and planners are, a melanin-challenged group, the panelists observed. For example, less than 10 percent of architects are African-American or Latino, though those groups make up more than 30 percent of the US population. And only 15 percent of architects are women. "The people who are creating our cities are predominantly white men," said Moore.

That lack of diversity contributes to poor outcomes for African-Americans and Latinos. In America's cities, people of color—*still*—inhabit neighborhoods marked by underinvestment, lack of access to employment, environmental hazards and high crime rates. Those separate and unequal places are the result of generations of racialized policies—from redlining and zoning to misguided "urban renewal."

And, as New Urbanists well know, our lives are shaped by the places we live. "Zip codes are not just addresses," said Sims, "they are life determinants.

Tell me your zip code, and I can predict how much you earn, when you will die, and whether you will get kicked out of school."

The places we live affect our bodies even at the molecular level. Children from crime-ridden neighborhoods have higher levels of cortisol, a stress hormone, which is linked to learning problems, as well as a host of physical and mental illnesses. Environmental factors like toxins and stress can actually alter our genes, creating changes in our brains that last a lifetime. So the people who design and plan cities are "fooling around with people's genes without their permission," said Sims.

The New Urbanist movement has an important role to play, said Talen, in connecting the dots between equity and the built environment. The challenge is not new: the question of how to build livable cities that serve all people has preoccupied urbanists—including Ebenezer Howard, Le Corbusier and Jacobs—since the 19th century. CNU itself has addressed aspects of this issue; for example, by launching an affordability initiative a decade ago.

But much more remains to be done. First, it's crucial to build a pipeline of diverse talent, said Moore. Moore recalled his own entry into the field when, at age 14, he was hired as an intern for CSO Architects in Indianapolis. While designing a gymnasium for Moore's high school, CSO was asked to hire two summer interns from the school. Two decades later, both of those interns—black males from an underperforming inner-city public high school—have careers in the planning and design professions. "Someone really should replicate that on a much larger scale," said Moore.

And the field must address other barriers, as well. Once on the job, designers and planners of color face a gauntlet of cultural challenges and microaggressions. As an African-American male in the profession, "I am basically a unicorn," said Moore. "When I go to meetings, people assume I'm not the person in charge." Ron Sims recalled that, when he served as Deputy Secretary at HUD, "someone at a meeting asked me to get them a drink." He added with a sigh, "Hey, it happens."

To diversify the planning process, it's crucial to find better ways to engage with communities of color. "Town Hall meetings don't work," said Sims, because the people who speak up don't necessarily represent the community. Instead, designers and planners must seek out a neighborhood's most trusted

individuals and organizations. And respect the diversity *within* communities, said Sims: "Don't assume that all people of color have the same priorities."

The dynamics of community meetings are also important. "We need to ask, 'Who is at the table?'" said Moore. "'Who is heading the table, and facilitating the discussion?'" And, importantly: "'Who is calling the meeting in the first place?'"

In short, creating cities that work for everyone will require big changes in who does urban planning, and how. To bring about those changes, designers and planners must make diversity a "metaprinciple" of their work, said Talen. Every design project should be measured by whether it helps—or hurts—the goal of building diverse, inclusive places to live, she added.

It will not be easy to diversify the process of urban design and planning, but it is essential that we do so. The places we live shape our lives in ways both trivial and profound; the power to shape those places is central to self-determination, growth and power. As Jane Jacobs once wrote, "Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody."

Building Resilience? There's a Standard for That

Laurie Mazur

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In this era of frequent and costly disasters—both natural and man-made—there is an urgent need to upgrade the resilience of the built environment. Planners and builders are stepping up to the challenge. Public officials, too: In July, local elected officials gathered at the Resilient Cities Summit in Vermont and New York City hosted a major meeting of urban resilience practitioners at the first 100RC Urban Resilience Summit.

To complement these efforts, various public- and private-sector groups have issued voluntary resilience standards—a rapidly proliferating array of certifications, benchmarking systems and design principles. The creators of these standards hope to catalyze a shift in building norms, much as the LEED (Leadership in Energy and Environmental Design) program fostered a move toward more sustainable buildings.

But while LEED has won broad acceptance, resilience standards are at a much earlier stage of development. For one thing, "In our interview research, many developers did not know the standards existed," says Kathryn Wright of Meister Consultants Group in Boston. "When they are asked to plan for resilience, they wind up reinventing the wheel." Wright recently co-authored a new report that sorts through the emerging resilience standards, in order to help practitioners make better decisions and improve the state of practice for the field as a whole.

The report, *Voluntary Resilience Standards: An Assessment of the Emerging Market for Resilience in the Built Environment*, reveals a crowded landscape of standards addressing a range of hazards, from flooding to earthquakes and terrorism. The standards' creators are an equally wide-ranging

group—from the U.S. Green Building Council to the Department of Defense. Some standards, for example, operate at the facilities level, focusing on a single building or a campus-level electrical grid. Others, still under development, will operate at the district scale, assessing the vulnerabilities of larger systems such as waste and transportation.

Inevitably, the standards offer differing measures of resilience. Many are narrowly performance-based, assessing how a building (or a system within a building) will withstand certain shocks or stresses. Others take a more holistic approach, helping decision makers assess their facilities' vulnerabilities and prioritize responses accordingly.

A few pioneering standards—including the Resiliency Action List (RELi), Building Resilience—Los Angeles (BRLA), and the Enterprise Green Communities certification—consider buildings within their larger social context, and seek to build cohesive, adaptive communities. For example, BRLA encourages facilities managers to engage with neighbors and think expansively about investments in community resilience.

Confronted with this vast array of standards, what's a resilience-minded planner to do? The Meister report offers a good starting point; its matrix can help identify the right standard for a particular project, saving time and resources.

More broadly, how does resilience planning become the norm? Many players have important roles here. Major real estate industry associations could raise awareness about standards and share information about resilient building techniques. The insurance and reinsurance industries—which stand to benefit mightily from risk mitigation—could incentivize the adoption of resilience standards. Lenders and financiers, as well as regulators and state and local officials, could follow suit. In short, industry outreach, combined with opportunities to monetize investments in resilience, could greatly speed the uptake of resilience standards.

This summer's conferences on resilience are evidence of growing political will to address this issue. "Local officials understand the urgent need to advance the preparedness of the built environment," says Jon Crowe, vice president at Meister Consultants Group, who attended the Resilient Cities Summit. "Real progress on resilience will require a cooperation and commitment from both the public and private sectors," he adds.

Planners and builders have an immediate role to play. Today, they can choose from an ever-growing menu of resilience standards. And, as with early adopters of LEED, they can improve the system by communicating challenges and results to the organizations developing the standards. "The standards are out there," says Kathryn Wright, "it's time to put them to use."

With an "Urban Diary" Everyone's a City Planner

Charles R. Wolfe

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We may inhabit the same city, but we live in different worlds.

Each of us sees our city from a slightly different angle, the view filtered through lenses of race, class, and circumstance. Even when we encounter the same scene, we experience it differently. Consider this: for a young professional in a gentrifying neighborhood, a new gastropub looks like an inviting place to knock back a few pints. But to a long-term resident facing skyrocketing rents, that same pub looks like the beachhead of an invading army. Or, imagine the imposing view of an iconic cathedral's stone steps—to someone in a wheelchair.

These all-important individual perceptions are valuable data points; together they form a trove of information that could be used to create better cities for all. But, that information does not often inform urban planning and policy. Instead, our cities are usually shaped by a rather homogenous group of designers and planners, who typically speak the bloodless language of blueprints and building codes.

Old, largely top-down habits can change. Fortunately, we all have within us the capacity to perceive what we like and dislike about our surroundings; to respond with delight, sadness, fear, or anger, and to discover how best to improve the world around us. When crafting urban policy, plans, and related urban design, we must do a better job of finding a role for these perceptions.

To that end, in my book, *Seeing the Better City*, I offer a tool—the "urban diary"—that can harness the power of perception to transform how our cities evolve. An urban diary is more than either abstract idealism or the "citizen participation" of old. It takes advantage of what many

of us are already doing with our cameras and smartphones: recording what we see, and what we like or dislike, about the cities we inhabit. Indeed, many of us are regularly creating urban diaries, of a sort, on our Facebook and Instagram feeds.

We can take it a step further, by intentionally observing and documenting our experience with photographs, sketches, or notes—and utilizing what I call the LENS method (Look, Explore, Narrate, and Summarise.)

It's easy to start. For example, visit your five favorite neighborhoods and record the sights and sounds you encounter. Or write a couple of paragraphs about your morning commute.

The information collected in an urban diary can be used in multiple ways—as a scalable tool to become more mindful of our surroundings, for example, and hence better advocates for thoughtful urban planning. Or it can be used to enhance traditional land-use or design-review processes, which now typically rely on conventional oral comment or written input from affected neighbors.

The urban diary can provide an inclusive alternative to abstract, top-down prescriptions by engaging a diverse range of city residents in civic dialogue. It can be used, in the words of planner Yuri Artibise, "to reintroduce the human experience into urban planning."

The trick, of course, is to implement the all-too-frequent lip service to equity and inclusion, and apply the information from our urban diaries to the real world of decision makers and developers. Some pioneering cities are using similar approaches to do just that. In my hometown, Seattle, the Yesler Terrace Youth Media Project used the Photovoice platform to catalogue students' concerns about a then-pending large-scale redevelopment of their public-housing community. Otherwise-overlooked voices provided Seattle Housing Authority project managers and city officials with invaluable image-laden insights about younger residents' perceptions about change.

In Adelaide, Australia, personal storytelling through photography became a critical element of planning the city's future. Stage 1 of "Picture Adelaide 2040" centered on gathering 1,000 stories and photos from citizens on how they use their favorite places. The project's summary

report explains how these perceptions were integrated into planning goals and objectives.

And in Austin, Texas, "Community Character in a Box" was a city-initiated do-it-yourself toolkit that suggested ways for community members to capture images of the assets, constraints and opportunities for improvement in their neighborhoods. Significantly, the process not only taught citizens how to document their perceptions through photography but also allowed project professionals a greater understanding of neighborhood qualities and character.

Other photo- and observation-based examples show the importance of preserving culturally important everyday activities, such as fishing from urban piers or congregating in streets for regular social events. And some architects and developers—who increasingly understand the critical roles for our innate visual sense and storytelling tradition—have incorporated community input into interactive design processes that foster a sense of community empowerment in site-development efforts.

The urban diary and similar approaches can set aside the buzzwords, identity politics, and academic jargon that saturates our discussions of cities, providing a universal language for all. By capturing the perceptions of city dwellers, decision makers will be better equipped to plan cities and respond to urban change.

Everyone—regardless of background, disposition, or profession—can use their senses to explore and observe urban space. We can record what is inspirational and evocative, what seems to work in fostering an equitable, livable, inclusive city, and what does not. In this way, we can envision the better city from every angle.

Parks for (All) the People

Laurie Mazur

Originally published October 31, 2017 in Governing

Once the site of an open-air drug market, Boeddeker Park in San Francisco's struggling Tenderloin District was emblematic of urban decay. Its rusted, dilapidated playground was named the city's worst. Today, Boeddeker sports a lush lawn, new play equipment, a full-size basketball court and a clubhouse that hosts programs for neighborhood kids.

Call it affirmative action for parks. Recognizing that its most disadvantaged residents have the least access to high-quality parks, the San Francisco Recreation and Parks Department has embraced equity as a guiding principle, prioritizing parks in low-income and marginalized neighborhoods. The transformation of Boeddeker Park shows how it can be done.

San Francisco is not alone in promoting affirmative action for parks. Minneapolis, for example, recently launched a 20-year plan to revitalize its parks, prioritizing the improvements in areas of concentrated poverty and communities where the majority of residents are people of color.

Why is this affirmative action necessary? Not only are parks in low-income neighborhoods more likely to be in poor condition, but there aren't enough of them. One in three Americans—more than 100 million people—do not have a park within a 10-minute walk. Low-income people and people of color are less likely to have a high-quality park nearby than their affluent, white counterparts. There is only one acre of parkland for every 1,000 residents in impoverished South Los Angeles, versus 72 acres per 1,000 in affluent West L.A. neighborhoods such as Pacific Palisades and Brentwood.

The lack of a neighborhood park may seem trivial compared to other inequities. But it is more important than you may think. For one thing, when people have ready access to parks, they exercise more; access to a

park can literally be a matter of life and death. And where the lack of access to parks overlaps with other inequities, it compounds the already deadly effects of poverty and racism.

To address this problem, a bipartisan group of more than 130 mayors has joined the Trust for Public Land, the National Recreation and Park Association, the Urban Land Institute, and the JPB Foundation in a "10-minute walk" advocacy campaign that seeks to ensure that every resident of urban America will have ready access to a high-quality park or green space. "Connecting people to parks is a sure way to build happier, healthier communities and improve daily life for millions of Americans," New Orleans Mayor Mitch Landrieu, president of the U.S. Conference of Mayors, said in a statement put out by the campaign.

The campaign reflects a growing appreciation for parks as hard-working, multi-tasking urban infrastructure. Indeed, parks offer an astonishing array of health, environmental and economic benefits, from managing stormwater and flooding to reducing the urban heat island effect. They support carbon-free transportation, such as walking and cycling, that reduces the environmental impacts of car use. Parks help surrounding communities by boosting local businesses and revitalizing neighborhoods. They build community; their common spaces help neighbors forge bonds that make them safer and more resilient. And access to parks with robust programming has been linked to reductions in crime and especially juvenile delinquency.

But while the impact of revitalized urban parks is overwhelmingly positive, there can be unintended negative effects. An improved park can catalyze gentrification, pricing out long-time residents. Some park advocates are taking steps to mitigate displacement. Notably, Washington, D.C.'s 11th Street Bridge Park project includes an Equitable Development Plan designed to permanently protect affordable housing and create jobs in low-income neighborhoods east of the Anacostia River. Last year, the project won a $50 million grant from the Local Initiatives Support Corporation to promote equity and improve the quality of life in areas close to the park.

Achieving equitable access to parks poses a range of fiscal and practical challenges. Hence the "10-minute walk" campaign, which marks the start of a multi-year partnership with mayors and cities across the

country. These include America's four largest cities—New York, Los Angeles, Chicago, and Houston—and smaller cities such as Chattanooga and Oklahoma City. The campaign will work on policies and strategies to advance access, including innovations in park finance and construction, zoning changes to encourage park development, and expansion of "joint use" agreements that open school playgrounds, tracks and gyms for public use after hours.

Parks are more than just amenities; they are essential infrastructure for health, sustainability and prosperity. Ensuring equitable access to parks is part of what must be done to close the gap between our nation's haves and have-nots. Whoever you are, wherever you live, the benefits of a high-quality park should never be more than 10 minutes from home.

SECTION IV

Infrastructure

Resilient Infrastructure Can Help Us Adapt to a Warmer World

Emil Frankel

Originally published November 13, 2017 in The Progressive

President Donald Trump has proclaimed November "Critical Infrastructure and Resilience Month." He is right to recognize the key role that infrastructure plays in assuring the nation's health, security and prosperity. However, much of our critical infrastructure—especially transportation systems in coastal areas—is anything but resilient. We can change that by facing up to climate threats and designing our infrastructure accordingly.

Climate threats are real, and growing. Experience has shown, and scientific studies have confirmed, that sea levels are rising at accelerating rates—and could swell by eight feet by the end of this century. With rising seas comes a heightened risk of storm surges and flooding from hurricanes, tropical storms, and Nor'easters. And warmer oceans are fueling record-breaking storms, like the hurricanes that recently devastated Texas, Florida and the Caribbean.

At the same time, extended heat waves, droughts and heavy rains are occurring with greater frequency. This places extraordinary pressures on highways and roads, tunnels and bridges, telecommunications networks, power generation plants and transmission lines, and water and sewage treatment facilities.

While the Trump administration has withdrawn from efforts to mitigate climate change, we have no choice but to adapt to a warmer world. Indeed, even if the international community reduced greenhouse gas emissions to the levels called for in the Paris climate agreement, gases already in the atmosphere will ensure warming for centuries to come.

A proactive response must go beyond the investments in research and development President Trump has recommended. Today, it is crucial to incorporate resilience into infrastructure planning.

Design standards for new or rebuilt infrastructure should reflect the realities of a changing climate. For example, federal standards should require that bridges over navigable waters be constructed at greater heights and incorporate design elements that will enable them to withstand severe flooding and storm surges. And FEMA should mandate that infrastructure damaged by catastrophic events be rebuilt to higher and more resilient standards. But the Trump administration is moving in the opposite direction: In August, the president rescinded an Obama-era standard designed to reduce flood risks to infrastructure.

Retrofitting (or even relocating) existing elements of the transportation system, like coastal rail lines and subway networks, will be extraordinarily expensive. But disaster is expensive too—and the costs of disaster are borne by society, often crowding out other necessary investments. Consider this: if sea levels rise a foot or more, the runways of virtually every major commercial airport on the East and Gulf coasts would be under water. That is a cost we cannot bear.

Resilient infrastructure—while costly—is a wise investment. Every dollar spent on disaster prevention and resilience saves an average of $4 down the line.

Protecting our infrastructure is essential to Americans' mobility, safety and security.

Recognizing the importance of infrastructure—as President Trump did in his proclamation—is a good start. But the proof of this administration's commitment will depend upon the policies it proposes and implements. Those policies must face the facts about our changing climate, and prepare our vital infrastructure for a warmer, wilder future.

Rampant Wildfires Will Affect Our Drinking Water and Infrastructure

Edward Struzik

Published September 15, 2017 in Skagit Valley Herald

If you live in the northwestern half of the continent, as I do, there has been no escaping this year's extraordinary wildfire season.

Tens of thousands of people have been forced to evacuate their homes. Tourists and hikers destined for national parks such as Glacier, Waterton, Yosemite and Mount Rainier have had to cancel plans or suffer through noxious smoke drifting in from fires, some hundreds of miles away. Hardly a day goes by when a public health official isn't warning people to stay inside or reduce physical activity.

Once the smoke clears, a more enduring problem will emerge. Forests play a large role in regulating climate change and rainfall patterns over land. They also act as filters for water consumed by hundreds of millions of people.

But once trees catch fire, they unleash ash, sediments and various noxious chemicals. And heat from fires undermines soil stability. Then, when heavy rain falls, tainted water slides into rivers rather than seeping into underground aquifers. If it rains hard enough, flooding often follows, especially when there are no trees to take up what moisture is absorbed into the soil.

The inevitable overload of carbon and sediment coming from a big fire can interfere with a water treatment plant's disinfection process, just like a dishwasher with a plugged drain. When that happens, carbon reacts with chlorine and produces undesirable chemical byproducts, including known and suspected carcinogens.

The science of wildfire hydrology has been around for some time. But most government agencies wouldn't consider funding research into this

field until the 2002 Hayman fire burned nearly 138,000 acres of forest in the Colorado Rockies, producing catastrophic results.

Without trees, vegetation and a stable soil structure to absorb the heavy rains that followed, Colorado rivers and streams degraded by ash, debris, heavy metals and other contaminants flooded through a watershed that serves 75 percent of the state's residents. Fifteen years after the fire, the blue-ribbon South Platte River trout fishery has still not fully recovered.

A similar thing is happening in Fort McMurray, in Alberta, Canada, where a 2016 fire forced the evacuation of 90,000 people. This year, that city is likely to spend two to three times more on chemicals to keep its drinking water safe. Portland, Oregon, now at the center of fires burning in that traditionally soggy state, is being monitored for water contamination, as are a number of other cities.

There are no easy solutions. Fires are burning bigger, hotter, faster and more often in forest landscapes occupied by humans. Humans are responsible for igniting most wildfires. Climate change increases the risk because heat dries out forests and increases the likelihood of lightning.

Ramping up water treatment systems is one (expensive) option. Enhanced protection of our forested watersheds is a better solution. Healthy forests are an inexpensive way of keeping our water clean and filtered. In a world of bigger, hotter fires, it is time to think of forests as vital infrastructure, and to invest in preserving these resources for the future.

Climate Denial Puts Infrastructure at Risk

Cathleen Kelly

Published May 12, 2017 in The Sacramento Bee

May 15 to 19 is Infrastructure Week in the United States, and much about President Trump's proposed $1 trillion plan to rebuild crumbling roads, bridges and water mains remains uncertain. But one thing is clear: It cannot succeed if it doesn't account for a changing climate.

Trump and about 180 members of Congress deny the science behind climate change, but they can't change the facts. Reams of scientific evidence link rising global temperatures to more extreme weather, including punishing storms, longer and more devastating droughts, and hotter heat waves. In 2016 alone, extreme weather caused nearly 300 deaths and $53.5 billion in economic damage across the United States—more than double the cost of similar events the year before.

Extreme weather driven by climate change also puts extraordinary pressure on the country's aging dams, roads, rail lines, bridges, water infrastructure and power plants. In 2012, Superstorm Sandy caused massive outages across New York and New Jersey, leaving more than 8.5 million customers without power. Earlier this year, the Oroville Dam spillway breach threatened to send floods tearing through northern California communities after that state's whipsaw swing from drought to deluge. Dam repair costs have surpassed $100 million and continue to mount.

Our nation's infrastructure needs more than repair; it must be rebuilt to withstand a wetter, wilder future. If the United States fails to do so, the cost of infrastructure maintenance and disaster assistance could drain federal, state, and local budgets and burden businesses' bottom lines.

Many state and local governments have already figured this out. The city of Miami Beach, facing nearly a foot of sea-level rise by 2030, is

investing an estimated $500 million to protect vital systems from high tide flooding. The project will modernize the city's plumbing system, raise sea walls, and elevate roads. Meanwhile, Grand Rapids, Michigan, is spending more than $240 million to keep more frequent and severe rainstorms from sending sewage overflows into the Grand River.

Large corporations, including Exxon Mobil, ConocoPhillips, Statoil and Royal Dutch Shell, are protecting billion-dollar infrastructure from rising sea levels, more severe storms, and hotter temperatures. Even one of Trump's golf courses has taken steps to erect a seawall to secure its assets against "global warming and its effects."

Like many risk-management strategies, these resilience-building investments pay big dividends. According to the Multihazard Mitigation Council, every $1 invested in disaster-risk reduction and infrastructure resilience saves $4 in future disaster costs.

Infrastructure Week, sponsored by a bipartisan coalition that includes business groups and labor unions, underscores the urgent need to invest in the vital systems that drive our economy and our way of life.

President Trump and Congress have promised to make those investments. But if their plans ignore the reality of climate change, our communities will not be sufficiently safeguarded from extreme weather events.

Rather than pay much more down the road to fix and rebuild our infrastructure, Congress and President Trump should act now to build infrastructure that can withstand the effects of climate change.

Water-Smart Green Infrastructure: The Private Sector Steps Up

Katharine Burgess

Originally published May 4, 2017 in Planetizen

Catastrophic floods. Withering droughts. Combined sewer overflows. As the planet warms, communities are coping with a range of ever-more-severe water challenges. Green infrastructure is part of the solution: many local governments are deploying natural features to manage water, while creating valuable green spaces in the bargain. And—according to the new Urban Land Institute report *Harvesting the Value of Water: Stormwater, Green Infrastructure, and Real Estate*—the private sector is increasingly on board.

Green infrastructure offers a cost-effective alternative to traditional "gray" drainage systems, such as pumps and pipes. It's a catchall term that includes rain gardens, bioswales, and green roofs that help manage stormwater and prevent sewer overflows. Also included are water-conservation strategies such as cisterns and rainwater recycling, which can mitigate the effects of drought. The benefits of this approach are manifold, from improved air and water quality to better climate resilience and good-paying jobs for low-skilled workers.

For years, local governments have embraced green infrastructure on public land, and many have used mandates and incentives to encourage its uptake on private property. Those efforts have borne fruit. Today, we see the emergence of coordinated citywide green infrastructure networks that include both public and privately owned sites. Municipalities incorporate green design into public spaces, buildings, and rights-of-way, while the private sector does the same for privately owned buildings, open spaces, and roofs. For developers, there is much to be gained: according to the ULI report, green infrastructure projects "create value for real estate projects by enhancing aesthetics, operational efficiency, and building user experience."

The report examines several compelling examples:

- Burbank Water and Power EcoCampus, Burbank, California—a campus for a community-owned utility site, which is the first power plant in the world to run on 100 percent recycled water;

- Canal Park, Washington, D.C.—a neighborhood park developed by a public/private partnership and located on the site of a former D.C. waterway, with 95 percent of the park's irrigation, fountain, toilet-flushing, and ice-rink water provided through rainwater recycling;

- Encore!, Tampa, Florida—a 28-acre public/private, mixed-use, mixed-income development with an 8,000-square-foot stormwater retention harvesting system and a stormwater vault designed as the centerpiece of a public park;

- Stonebrook Estates, Harris County, Texas—a Houston-area residential development with a low-impact development approach that stood up to catastrophic flooding during the Tax Day floods of 2016.

These and similar green infrastructure projects offer benefits to all partners. For cities, they save money that would otherwise be spent on costly gray infrastructure that offers no community benefits (you can't picnic in a storm sewer). There can often be cost savings for real estate developers, too, or opportunities for increased yield, because green infrastructure takes up less space than traditional stormwater approaches, such as detention ponds—freeing up more space for development. The study also found that green infrastructure can offer opportunities for placemaking and enhancing aesthetics, ultimately leading to a marketing advantage and the potential for unique market positioning.

Perhaps the best argument for public-private cooperation on green infrastructure is that neither sector, on its own, can manage today's water challenges. And, in a changing climate, those challenges will only multiply. The ULI report quotes Jeffrey Seltzer, associate director of the Washington, D.C. Department of Energy and Environment: "When we look at the amount of work that needs to be done to manage stormwater in the District—the vast area of public and private land that needs to be

retrofitted as well as the money and time involved—we realize that we can't accomplish our water quality goals by only implementing public projects. Incentive programs that encourage voluntary retrofit are a huge piece of the puzzle."

The good news is that the private sector is stepping up to that challenge and creating opportunities as a result.

Trumping the Transportation Progress Our Cities Need

Linda Bailey

Originally published April 4, 2017 in Governing

President's Trump proposed budget would be a disaster for the transportation networks that are key to the growth engines of today's economy: cities and their suburbs. Contrary to his often-bleak portrayal of them, cities are a remarkable American success story, contributing 90 percent of the country's economic output and 85 percent of U.S. jobs.

The preliminary federal spending plan would pull the rug out, jettisoning the funding that helps cities build new transit lines, eliminating the program that lets local communities directly access federal transportation funds, and axing a widely popular 42-year-old program that funds infrastructure of all kinds in every congressional district.

This severe approach flies in the face of national trends. Cities across the country are investing in transit, spurring job growth and economic development. More than 12 million people rode the new Green Line connecting Minneapolis and St. Paul last year, and the project has generated $5 billion in investment since it opened. Los Angeles' Expo Line has seen record ridership since opening an extension to Santa Monica, with more than 50,000 people hopping the train every day. And Houston's overhaul of its bus network, with a subsequent boost in the number of people riding at all hours, is inspiring the same in other cities, including Columbus, Ohio, and Austin, Texas.

Stopping this progress in its tracks is not just unpopular; it's irresponsible. Yet the White House has proposed to stop funding transit projects through the New Starts and Small Starts program, which matches over $2 billion in local funding for rail, streetcar and bus rapid transit projects every year. Without it, Seattle would be choking on traffic; instead, the

city has been able to add 45,000 new downtown jobs, thanks in large part to investments in high-capacity transit.

Trump's budget also envisions eliminating TIGER, a program that is already chronically underfunded, with just 5 percent of eligible projects supported last year. It would also cut off all Community Development Block Grants, without which Portland, Ore., wouldn't have built the first legs of its highly successful streetcar system.

These cuts would imperil planned improvements nationwide, ranging from faster bus service in Indianapolis to an expansion of Phoenix's successful light rail system. Also imperiled: the Durham-Orange light rail project in North Carolina's Research Triangle, projected to serve 26,000 people every day, and Milwaukee's East-West bus rapid transit line, which would connect people to 120,000 jobs and spur up to $60 million in new investment along the corridor.

In addition, the proposed elimination of subsidies to Amtrak services, which had record ridership last year, would leave communities without passenger rail at a time when we need more connections between our cities, not fewer.

President Trump has promised a $1 trillion plan to rebuild our infrastructure, but it is impossible to square his words with his budget proposal.

The people who live in our communities clearly have a different position on investing in their future. In last November's election, Americans showed up at the polls to ratify a host of ballot measures approving new taxes for public transit, safety and people-friendly streets. These new projects will enhance mobility and bolster economic growth while reducing the impacts of climate change.

Cities are investing in their future. It's time for the federal government to get back on board.

What JFK Fliers Owe Jamaica Bay Wildlife

Eric W. Sanderson and John R. Waldman

Originally published January 7, 2017 in New York Daily News

The world needs John F. Kennedy International Airport—now set for a major overhaul, if Gov. Cuomo gets his way—but the considerable environmental costs of the airport are largely loaded on a single place: the much-loved and much-abused reaches of Jamaica Bay. It's time that the world pays back what it owes, via a "fair fare for nature."

At the dawn of commercial aviation 80 years ago, dry land for new infrastructure was already hard to find. So, in New York and elsewhere, coastal cities built airports on tidal wetlands at the urban edge.

New York City's first major airport was Floyd Bennett Field, constructed by pouring garbage into marshes and bulldozing maritime forests on the Brooklyn-side of Jamaica Bay. The second was LaGuardia Airport, constructed in the grassy shallows of Flushing Bay. JFK got its start as Idlewild Airport in 1942 by filling in the tidal marshlands around a golf course also constructed on fill.

Back then, the field of ecology was still in its infancy and nature's benefits to humanity largely unappreciated. Tidal wetlands were thought of as wastelands. Now we know that marshes slow down the waves that come with surges from major storms and give the water a place to go after hitting the shore, increasing resilience from damage.

Salt marshes also provide a nursery for fish, including many kinds that people like to catch and eat and thus creating jobs. They help blunt climate change by sequestering carbon in deep layers of peat.

The marshes also offer important habitat for hundreds of species, including vulnerable diamondback terrapins and saltmarsh sparrows, while

offering terrific opportunities to see wildlife from the A train.

These valuable ecosystems have suffered terribly for us and our airport. Landfill was just the beginning. The fill had to come from somewhere—and most was euphemistically "borrowed" from the bottom of the bay, leaving large, deep, noxious holes that slow circulation and impair water quality. The latest research suggests these holes may also worsen flooding of neighboring communities by allowing more water to enter Jamaica Bay—as occurred during Hurricane Sandy.

The bay is further burdened by four sewage treatment plants that release their treated effluent, and over 26,000 pounds of nitrogen per day, into its waters. Ninety-nine percent of the fresh water entering Jamaica Bay today comes via a pipe, not a stream.

The airport, and the development in and around the bay, certainly has harmed wildlife populations, both by covering a vast area of habitat with asphalt and by creating the necessity to kill thousands of birds each year—including some protected species—for aircraft safety reasons.

Of course, JFK Airport is invaluable to New Yorkers, and to the world. Some 60 million passengers and 1.4 million tons of cargo and mail moved through it last year, and—by the Port Authority's accounting—the economic benefits to our region total over $37 billion annually. However, considering JFK's environmental impact, couldn't some modicum of this value be channeled to protect and restore Jamaica Bay?

Imagine if we added a small fee—just a dollar—for every passenger ticket in or out of JFK, and for every 100 kilograms of air cargo. It would mean practically nothing to passengers, who already pay an excise tax of 7.5% on domestic travel plus a variety of other fees that can easily add $40 or more per ticket. But this "fair fare for nature" would mean a great deal for local restoration efforts.

It could generate revenues of $73 million every year, which could be used to restore the salt marshes and maritime forests of Jamaica Bay and fill in the borrow pits with clean sand. Bird-friendly places not in the airport's flight zone could be restored to make up for the lost habitat and thousands of birds "managed" each year to avoid air strikes. New Yorkers

would see diminished flood risk, improved water quality, more green jobs and better nature for all.

Nature is both too humble to ask and too unpredictable when provoked. If we want to build resilience for both the human and natural economy, we need to pay back what we've taken.

Trump's Executive Order Puts Infrastructure and Taxpayers at Risk

Cathleen Kelly

Originally published August 25, 2017 in Morning Consult

You may have missed the original intent of President Donald Trump's news conference in New York last week—the one in which he made his unconscionable defense of the white supremacists who rallied in Charlottesville, Va. At that event, Trump also announced a new executive order that will roll back environmental reviews and a standard to reduce flood risks to infrastructure.

The president claimed that this move "streamlines" the process for federal agencies to review the environmental risks of major infrastructure projects, including highways, bridges and pipelines. In reality, Trump's executive order weakens the National Environmental Policy Act and cancels a federal standard that protects new infrastructure from flooding and costly repairs. The order is a gift to developers and big corporations—the "private" half of the public-private partnerships that will implement the president's infrastructure plan. Communities will suffer the consequences and taxpayers will pick up the tab

Trump's executive order will undermine important public health and environmental protections and channel taxpayer dollars into risky infrastructure investments in flood-prone areas. And it will place communities struggling to make ends meet and communities of color—which are already exposed to disproportionately high flood risks and pollution from power plants, pipelines and highways—at even greater risk.

Here is what's at stake. NEPA—one of the United States' foundational environmental protection laws—was enacted by Congress in 1969, after years of growing public concern about environmental quality. The law helps ensure that infrastructure and development projects proceed without sacrificing public health and environmental protection. NEPA provides

a framework for informed governmental decision-making, mandating careful review of the impacts of major infrastructure projects. It empowers local communities through greater transparency, and requires the federal government to conduct public outreach so that residents can voice their concerns about projects in their community.

It is a rigorous process, to be sure, but one that is necessary to make sure that taxpayers' money is not spent on harmful boondoggles. Before NEPA, poor planning and a lack of substantive environmental review caused tremendous waste of money and harm to public health and the environment. To understand the need for this process, one only need to look at the channelization of the Kissimmee River in Florida, which was completed prior to enactment of NEPA. By draining wetlands and shunting the river into a manmade canal, the U.S. Army Corps of Engineers destroyed a healthy ecosystem, replacing it with a series of relatively stagnant pools. The ecological damage caused by the channelization was so profound that Congress authorized a billion-dollar restoration of the Kissimmee River in 1992.

In addition to weakening NEPA, Trump's executive order also repeals the Federal Flood Risk Management Standard, which was created by the previous administration to avoid wasting taxpayer dollars on risky and poorly sited infrastructure projects. Recommended by a bipartisan task force of state, local, and tribal leaders, the standard aimed to ensure that hospitals, community centers and other public infrastructure in flood-prone areas are built to withstand growing flood risks.

Allowing poorly designed development projects in flood-prone areas is not only shortsighted and fiscally irresponsible, it is dangerous. Volumes of scientific evidence demonstrate that the world is getting hotter and, as a result, communities will face stronger and more frequent storms, heavier downpours and sea level rise—all of which elevate flood risks. Communities are already confronting the effects of rising flood risks: Just this week, in New Orleans, heavy rain flooded hundreds of homes and businesses. Growing coastal and inland floods affect every region of the country—posing vast financial risks to taxpayers, businesses and communities.

The stakes are high: According to a November analysis by the Office of Management and Budget, $168 billion in federal property and assets

is located in high flood risk areas, and stronger storms and sea level rise are projected to drive up annual federal disaster recovery costs along the U.S. coast by $19 billion by 2050 and by $50 billion by 2075.

In an increasingly disaster-prone world, it is prudent to protect public investments from undue risk. But Trump's new executive order is part of his administration's systematic assault on laws that protect the public health and environment of communities across the country—all on behalf of wealthy developers and other powerful special interests. American taxpayers deserve better.

The Effective Management Our Urban Parks Need

Douglas Blonsky

Originally published May 9, 2017 in Governing

Increasingly, Americans are coming to understand that their local parks serve as hard-working urban infrastructure. But it's less well understood that parks need capital investment and effective management to deliver benefits to our communities.

Those benefits are considerable. Urban parks provide green and open space for children to play, for families to gather and celebrate, for people to exercise and socialize, and for students to learn. These oases of nature make our cities healthier and safer: Their trees offer cooling respite from the urban heat island effect, and by absorbing stormwater they mitigate flooding and improve water quality. Parks also generate economic benefits by increasing sales- and property-tax revenues, boosting tourism and creating jobs. Like transportation, energy, communications, water and waste management, parks enable other sectors to grow and thrive.

But like other forms of infrastructure, our parks require long-term maintenance. These assets don't take care of themselves; they require consistent upkeep, a host of management systems and technical know-how.

We know all about this at the Central Park Conservancy. For the last 36 years we've been focused on breaking the cycle of decline that plagued Manhattan's magnificent landmark for its first 125 years. At its lowest point, during New York City's fiscal crisis in the 1970s, Central Park was a world-famous failure. Crime was at an all-time high, graffiti covered every surface, buildings were barricaded, and the park's benches and lights were broken.

When the Central Park Conservancy was formed in 1980, we focused on safety first—making sure lights worked so people would come into the park and that benches were repaired so people would stay—before moving on to larger-scale landscape and restoration projects like Sheep Meadow and Cherry Hill Fountain. We built a strong partnership with the city, leveraged contributions from the private sector and trained a small army of volunteers to support horticultural care and visitor services. As a result, Central Park is now more beautiful and beloved than ever, supporting more than 42 million visits annually and generating around $1.4 billion in annual economic activity for the city.

This comeback story isn't unique to Central Park, though. Many other urban parks are realizing similar results. Some have replicated our management model, which we have shared widely with parks across the nation and around the world. In 2002, for example, we advised the Buffalo Olmsted Parks Conservancy, recommending a public-private partnership that would leverage complementary assets and expertise from the conservancy, the city and Erie County. Forest Park in St. Louis, another park we've advised, won the USA Today Reader's Choice 2016 award, a testament to its public engagement prowess, among other park management skills.

There is much variation among public-private-park partnerships, or P4s as we like to call them. Each builds governance, funding and operations plans in response to its particular context, while land ownership and regulation remain with the public agency. Everybody benefits, which explains why P4s are on the rise. They are better able to deliver management expertise, additional funding to supplement lacking public dollars, and consistent oversight that does not shift with each election cycle.

Urban park success stories have one important thing in common: They've prioritized sound management. Park design and restorations are critically important, but without management, even well-designed or well-constructed parks can become derelict havens that deplete a city's limited resources. Negative park use leads to crime, families move away, tax revenues suffer, communities become divided and landscapes decline. Well-managed parks have the opposite effect.

Infrastructure is an issue that unites lawmakers on both sides of the aisle. We can all agree on the urgent need to invest in transportation, sanitation, communications and other systems essential to modern life.

As more people move to urban centers, parks are no longer seen as "nice-to-have" amenities but as "need-to-have" infrastructure that supports our social, economic and ecological health.

SECTION V

Environmental Justice

What Does Environmental Justice Organizing Look Like in the Time of Trump?

Laurie Mazur

Originally published January 18, 2017 in Grist

Environmental justice work will need to change in critical ways as Donald Trump ascends to the White House, but not in all ways, says Miya Yoshitani, executive director of the Asian Pacific Environmental Network (APEN). On-the-ground organizing around community members' local concerns will still be the core.

APEN brings the voices of Asian and Pacific Islander communities to the forefront of environmental health and social justice fights in the Bay Area. The group has successfully challenged multinational corporations and swayed local political authorities, notching important wins on occupational safety, affordable housing, transportation, renewable energy, climate change, and more.

Here, Yoshitani chats about APEN's work and what inspires her as she looks to the future.

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Q. You started out as a youth organizer for APEN in the 1990s, working with Laotian refugees in Richmond, California. And in the years since, you've had some amazing victories—stopping the expansion of a Chevron oil refinery, for example.

A. APEN is on the map for some of our big wins, like the Chevron campaign. But those wins rest on the shoulders of a couple of decades of organizing and trust-building and fighting for the needs of the community on a day-to-day basis.

Our first campaign was for a multilingual emergency warning system, not just for the Laotian community but for all the immigrant and refugee groups in the county who were only getting their warning calls in English. That was a huge problem, because of the explosions and fires and accidents that happen on a regular basis around the refinery. It could be the difference between life and death.

We also did education work to inform the immigrant community about the health impacts of subsistence fishing in the Bay, and about lead in dishware. We had a community garden, where seniors would come and garden and interact with the young people in our youth program, teaching them about the herbs and vegetables they had brought over from their home countries.

Environmental justice is really all about listening to the community, making sure that they have a voice on the things that are most important to them. Doing that sometimes helps you build power and improve quality of life. It can take time. But there are just no shortcuts to building power.

Q. Given that your work is deeply rooted in that community, what difference does it make—if any—that we're having this regime change in Washington?

A. In many ways, our work doesn't change that much. We will continue to do the base-building, relationship-building, trust-building organizing work that's connected to the solutions communities really need and hope for. And we will continue to connect that organizing work to real policy change at local and regional and state and national levels, too.

But absolutely there are impacts and changes given the new administration. The trajectory that we started—building power on the progressive left with people of color and low-income communities in leadership—has to accelerate.

California is a leader in demonstrating an equitable approach to climate policy. We've been able to win policies that get people

jobs and bring wealth into the community and clean the air for our kids and offer economic and political and social opportunities. Being able to move that agenda faster and to model it for other states is really critical. California can point the country toward the future—not just in policy but in politics and power. That's exactly where our state needs to be, and organizations like APEN and our communities have to help guide that and lead that.

On a practical level, too, our state has some of the highest populations of people who would be impacted by what the Trump administration promises to do—immigrant and refugee communities, Muslim communities, communities of color. California has to stand up really strongly and powerfully to defend the interests of our residents.

Q. And you're gearing up to do so?

A. Yes. It's a shift for APEN, preparing for this defensive action. In the last few years, we've been in a leadership role; our members have crafted some of the state's most important policy initiatives, especially around climate. But our communities are also among the most vulnerable to the attacks of the next administration.

Our communities hear the messaging coming from Trump and his new Cabinet—that they don't belong, they are the "other" and not part of the project of building the American Dream. Taking a stand is how our communities assert their belonging, their willingness to fight for their rightful role in shaping the future that their kids are going to live in.

Q. I know that APEN and its sister organization, APEN Action, have been working to cultivate electoral power in Richmond—supporting progressive candidates and changing the makeup of the city council. Does that work seem more important now?

A. Yes, that work has greater significance not just for APEN but for other communities that are at this intersection of poverty and

pollution. Exerting electoral power in combination with organizing work is the formula we need to invest in.

A priority right now is to make sure that we're balancing out the growth in electoral work with a growth in the organizing work because those two have to grow together. They're two sides of the same coin; we need both to get out of the triple crisis facing our economy, our democracy, and our environment.

Q. You're not just siding against stuff—like the Chevron expansion—but also fighting for a positive vision of the Just Transition away from a fossil fuel–based economy.

A. Yeah. APEN and its allies have been innovating and experimenting with new models—like Cooperation Richmond, which builds local wealth by incubating worker- and community-owned co-ops; and locally owned community-run renewable energy systems; and new food systems that are democratically run and serve the interests of local communities. Building these models is part of how we turn the tables and win. It becomes a tool for getting rid of the worst parts of the dirty-energy economy, and replacing them as we go.

What our communities need so intensely right now are real examples of a vision for a new culture and society, right in their own neighborhoods. They need to be able to touch and feel and experience them and also experience building them as participants in our democracy.

Building new models is part of staying hopeful about our ability to control our own destiny and fight for alternatives to the things that are making people feel so vulnerable and undervalued and unable to meet their family's basic needs.

Q. So, how are you doing post-election? What gets you out of bed in the morning?

A. It's a hard question because it makes me a little emotional. Of course, I'm worried. I think everyone has this moment where they wake up in the morning and for just a split second you

don't actually remember what's happening, and then you remember all over again.

Every morning, there's this assault from the news, and another very specific reason to be afraid. Is it our schools? Our homes? Our jobs? Our families being torn apart? Will our family members or our community members be picked up off the street, rounded up? Nuclear war? Climate chaos? Every day, there's a new aspect of that, and it feels so complete that it can be a little overwhelming.

But the thing that makes me emotional is how much people are already demonstrating their ability to be resolute and strong and creative and brilliant in these moments.

For groups like APEN and our community members, we draw on the fact that we have been through hard times before and those are the foundations of why we do the organizing work that we do. We're not alone: Our staff, our members, our leaders, our neighbors take care of each other and look out for one another, and there's been an outward expression and articulation of that commitment.

There's just a very strong chorus, a beautiful song, and people are taking it up in a renewed and powerful way. I have hope that we're going to be able to get through to the heart of what's causing the climate crisis because we're now going to be willing to address inequality in a more systematic and deep way, and that's because of the moment that we're in.

There is a deeper desire than I've ever seen to address the problem at its source and to get to the roots of why we're here in this moment. People are able to get out of their silos now and say, "Okay, I thought that I was going to be able to just go to D.C. and lobby my way out of this, but now I realize that we depend on each other and there's no way that we get a holistic solution to this crisis without a holistic approach." And that includes putting people back at the center. That's our pathway, our only pathway.

The Climate Change Debate: Black People Are Being Left Out and That Can Be Deadly

Charles D. Ellison

Originally published January 3, 2017 in The Root

When Bloomberg Media convened an invitation-only forum of notables on "The Future of Climate Change" during the first weekday of the Democratic National Convention in Philadelphia last summer, there was only one black person at the table.

When that person, economist Julianne Malveaux, finally asked what that event's cross section of environmentalist elite were doing about the disproportionate impact of climate disaster on black people, the reaction was quizzically tense.

"But, well, what do you recommend we do?" was the response from one white woman, who seemed to pose it more as a challenge than a question.

And when the other black person in the room (a silent observer for the only two black media outlets present) suggested that they could start by purchasing ads in black newspapers—such as the big daily one in Philly—the room was dumbfounded for a few seconds.

The exchange captures the level of diversity in the mainstream environmental movement: that is, not much. Instead, it's unrepentantly white. Green activism is a massive nonprofit industry with green-economy market potential, but it's constantly shaped by white voices: a national "green conversation" unfairly bathed in the stereotype of long-haired, tree-hugging white college kids road-tripping from one protest to the next.

Blame falls mostly on the movement itself. While the recent stand by indigenous tribes at the Dakota Access Pipeline site in North Dakota

might have briefly changed perceptions of the popular green movement's complexion, it didn't fix the broader problem of a space stubbornly dominated by white faces.

For Green 2.0 Executive Director Whitney Tome, that's nothing but green-movement business as usual. "While working in oceans, fisheries and national parks for a decade, I noticed a pattern: I was often the only woman of color," Tome pondered recently. "I often found it hard to offer any solutions because I, like many others, had to overcome implicit and often explicit barriers where people may think I am less qualified, less knowledgeable and less able to provide insight."

Impending policy fistfights over climate change are already rattling Washington, D.C., as a climate-change-denying Trump administration takes over. There are signs that the Trump White House, with congressional Republicans, will gleefully roll back hard-fought progress on climate change and air and water issues. But the open battle over national environmental policy—certain to hog up many headlines over the next few years—will find black voters, advocates and politicians largely absent. Lead environmental advocacy organizations from the Environmental Defense Fund to billionaire Tom Steyer's hyped NextGen Climate PAC are overwhelmingly white either in their staff makeup or in their leadership.

"Without people of color in positions with policymaking capacity, it means that the perspectives of people of color are less likely to be included in the deliberations or outcomes," Tome noted.

Yet, when human-made or human-instigated disasters inevitably hit, black folks are on the front lines. Bad water in Flint, Mich. Lead poisoning in an East Chicago project. Historic flash flooding in Baton Rouge, La. Superstorms along the Northeast. City-flattening hurricanes in New Orleans.

But the lack of a black presence in the climate fight is one cruddy outcome of a broader environmental conversation dominated by white voices. And it's not helped when mainstream environmental organizations welcome very little diversity within their ranks, much less black representation. In its *The State of Diversity in Environmental Organizations: Mainstream NGOs, Foundations & Government Agencies* report, Green 2.0 found that diverse populations often hit a "green ceiling"; people of

color barely account for 16 percent of environmental-organization staff (even though they are 36 percent of the U.S. population), and 5 percent of nonprofit boards. The situation worsens at upper-management levels, or what's called the executive "C-suite."

"The lack of racial, ethnic and class diversity in the environmental movement is not news," Denise Fairchild, president and CEO of the Emerald Cities Collaborative, explained. "What is news is the urgency to rectify this long-standing problem. Now, more than ever, racially diverse leadership in the environmental sector is central to resist current and long-standing efforts to dismantle the environmental and climate agenda."

That's a hard ask when people-of-color interns in environmentally focused nongovernmental organizations, government agencies and foundations outnumber the few people of color in leadership and board slots by a factor of two or three. Fewer of those people of color represent the black Diaspora, much less African Americans.

Politically, it's bad enough that black elected officials—especially on the federal level—won't jump in on climate talk. But when environmental organizations need to change the electoral map, black candidates don't get checks, and black voters are lucky to get noticed. Even NextGen Climate couldn't say for certain whether any of its $6.8 million media ad buy was dropped into black media outlets during the 2016 election cycle. One black advocacy group, Color of Change, did receive $74,000 (out of $92 million spent), but NextGen simply outsourced black outreach through a $5 million partnership with big labor's Service Employees International Union.

Still, a finger bow to NextGen for the effort: It was better than other green political titans like the Environmental Defense Fund, which didn't bother giving any money to black House or Senate candidates this past election cycle.

Funny, though: It's not as if black people don't care about climate change (even though they don't talk it up enough). As a matter of fact, they do: Roughly "three in five rate global warming and air pollution as serious problems," according to a 2015 Green for All poll. Nor is it that there aren't black voices lighting up the talk on climate change and other green topics—in fact, there are *quite a few.* Topping most lists of notable

black greens is Van Jones, the once-estranged Obama White House point man on green issues, now of CNN fame, who heads up Green for All. NAACP Environmental and Climate Justice Director Jacqui Patterson led an unofficial delegation of color to the 2015 Paris Climate Summit and demanded that the U.S. government pony up $5 billion for a Green Climate Fund.

But there are scores of others who have long been in the streets either creating movements, like environmental-justice "father" Robert Bullard, or carrying green flags and studying climate trends, like J. Marshall Shepherd at the University of Georgia and "urban scientist" DNLee. Brentin Mock, justice editor at must-read enviro mag *Grist*, roundly schooled this writer about the black folks shaking up the climate debate. And the Kresge Foundation-funded Urban Resilience Project touts an impressive pool of black minds on the subject, from Danielle Hilton and Seandra Pope down South to the Los Angeles County Bicycle Coalition's Tamika Butler out West.

Obviously we can't name every black environmentalist on climate duty, but operations like Kresge are funding a hard push to help us find more. That's resulted in efforts like Green 2.0 (and those groundbreaking diversity reports) to supporting the Building Equity and Alignment Initiative, another effort encouraging links among big greens, the grass roots and philanthropic organizations, as well as partnerships with groups like Sierra Club, 350.org and the Union of Concerned Scientists.

Still, LACBC's Butler looks for answers from the black and brown leaders of environmental-justice outfits rather than blank stares from the "mainstream" ones.

"As a person of color living in a historically black neighborhood in Los Angeles, I can't go on a walk in my local park without seeing active oil fields," Butler said. "If those leading the fight to protect our planet only talk about resources and never mention race, they'll never represent or understand the forgotten casualties as our planet changes."

Diversity Is Not Enough—And Done Alone, It Can Be Counterproductive

Jacqueline Patterson

Originally published February 6, 2017 in The Huffington Post

If your organization/coalition/group views racial and ethnic diversity as an endpoint, and is only ready to add another color to your crayon box, please give deep consideration to your intent and process. Below are some quotes from people/groups that have been burned by flawed processes that haven't started with a deep, fully integrated, institutional commitment to anti-oppression:

"I only lasted for three months."

"They acted nice at first, but it quickly became clear that they didn't really want to hear what I had to say."

"Just because I'm African American, they look at me as if I'm the oracle on all things black-related!"

"They claimed when they hired me that they wanted to deepen their work in our communities, but then they put me out in these white communities where I encountered blatant racism. It was very uncomfortable, and it didn't build on the assets I brought to the organization."

"More often than not, it felt like 'me against them' because they just didn't get what I was saying at best, and were resistant/hostile to what I was saying at worst."

"It was obvious they called me at the last minute when they realized they didn't have any people of color on the panel."

"When it was my turn to speak, by the time I was finished, everyone was staring in stunned silence and some people wouldn't make eye contact."

"Always having to be the one to point out racism is exhausting."

"By the end, I was cast as the stereotypical 'angry black woman.'"

"Now I have this smudge on my resume that's difficult to explain."

"We should have been forewarned when there were no other people of color led organizations in the coalition."

Three days ago I had yet another conversation where well-intended, but poorly implemented diversification efforts have fallen short and resulted in harm. I've either directly experienced, or have been the listening ear for, way too many stories of lamentation from the sole person of color employee, board member, steering committee/advisory group member, coalition member, or even panelist/speaker in various environmental organizations/coalitions/settings.

The divisions in our society, exposed and rubbed raw by recent events, urgently call for a deeper level of intent and action on building processes, organizations, movements, and systems that are rooted in anti-racism and anti-oppression. Even adding the terms "equity and inclusion" and a few extra interventions doesn't measure up in these times when so very much more is needed to bridge the schisms and address the pervasive systemic racism and other forms of oppression that impede progress on the interconnected issues of environment, economy, health, immigration, democracy, and so much more. As the site Fakequity so well illustrates, claim of equity by "including" or "engaging" people of color with an implicit expectation that they will assimilate to a deeply flawed system is far short of the transformation we need.

Recent studies/publications/initiatives have each sought to shine a light and issue an appeal to address the underrepresentation of people of color in environmental organizations and processes. The Green 2.0 Report uncovered the subpar racial/ethnic diversity in the staff and boards of nonprofit organizations, philanthropic organizations, and government agencies working on environmental issues. The D5 Coalition launched by philanthropic organizations aimed to diversify the staff and board of foundations and focus guidance of grantees in such a way that staff and board diversification is part of the criteria for grant making. The Board Members of Color group, now called The Green Leadership Trust, is

comprised of people of color serving on the boards of directors of environmental organizations and is focused on "building power and diversity in the advocacy sector." And the Diverse Environmental Leaders National Speakers Bureau shows that there are many options out there for diversifying groups/processes!

Much has been written on the topic of the need to go beyond diversity to actually adopting an anti-racist, anti-oppression agenda. *Beyond Diversity and Multiculturalism: Towards the Development of Anti-Racist Institutions and Leaders*, *Moving Beyond Diversity . . . Towards Inclusion and Equity*, and *And the People Shall Lead: Centralizing Front Line Community Leadership in the Movement Towards a Sustainable Planet* are examples of some publications that ask critical questions and provide guidance towards being intentional about institutionalizing anti-racist principles and practices. And the publication *Equity in Sustainability: Equity Scan of Local Government Sustainability Programs* reviews how to operationalize race based equity measures, at a minimum.

As I continue to hear these stories demonstrating lack of significant progress for the movement and trauma for individuals involved in diversification efforts, the words of caution bear repeating, with stridency! Just adding people of color to a process or institution is not enough, nor is it the first, or even the second, step along an anti-racist continuum. First, we have to be clear on intent. Is the end goal to simply have more people of color involved, or is the intent to institutionalize anti-racism/anti-oppression in our institutions and in our systems change work? In advancing an anti-racist agenda, not only is incrementalism through diversification alone not effective, it can actually be harmful to those an organization involves in these "forays" into seeking merely to diversify a staff or a process. If it is the latter, developing processes anchored by a commitment to anti-oppression/anti-racism not only results in diversity but the gains in diversification are significantly more sustainable, as are broader aims towards systems change.

There are practitioners/consultants/groups who are skilled at facilitating anti-racism/anti-oppression processes, including organizations such as Showing up for Racial Justice, Dismantling Racism, People's Institute for Survival and Beyond, Movement Strategy Center as well as individuals/consultants such as Angela Park, Judy Hatcher, Makani Themba of Higher Ground Change Strategies and others. For committed

organizations, these groups and individuals can serve as key resources in the path towards transformation.

For the sake of the persons who are the would-be hapless victims/survivors of these forays into diversity and inclusion, as well as to advance a broader process of ensuring that our conversations, our institutions, our movement, our systems, and our society are all rooted in anti-racism and anti-oppression, we must get this right.

In conclusion, I'm beseeching us all to strengthen our efforts and I'm stepping up to a commitment to self-transformation as well.

Funders—It is laudable that you are actively inquiring about board and staff diversity and even going as far as to be specific about asking about, not just numbers, but also level of seniority and decision making. Please also include inquiry about differential onboarding and ongoing support processes, as well as monitoring level of attrition for staff/board members of color and outcomes of exit interviews. And, to ensure a more transformative effort, please inquire about board and staff adoption and incorporation of anti-oppression principles and practices and include this as a key area of consideration in grant making.;

Organizations—Engage in a process that fosters institution wide commitment to anti-oppression/anti-racism. As recruitment occurs and people of color join the organization, ensure that there are checkpoints along the way to ensure that the person(s) is being heard and supported as well as encouraging/supporting caucusing by people of color within your organization and with other organizations, for peer support and exchanging lessons on best practices in addressing challenges and optimizing gains.

Coalitions—Encourage all individual members and the coalition on a whole to adopt anti-racist, anti-oppression principles and practices, in addition to the Jemez Principles (and Practices) of Democratic Organizing. Also, endeavor to build relationships, not just transactions.

Event Organizers—Above and beyond ensuring that there is diversity in your panelists/speakers, ensure that the diversification includes keynotes, moderators, etc. Ensure that it's not just about faces of color but that there is content on racial justice. Be intentional about skillful

facilitation of what could be triggering conversations for people so that tension becomes opportunity.

Diversity, Equity, and Inclusion Consultants—If you don't already, please encourage organizations to start with adopting an anti-racist/anti-oppression frame, principles and practices so that people of color come into a more welcoming and supportive space in which to bring their perspectives and gifts to advance the mission.

Individuals (potential board members, event speakers, job seekers, etc.)—As a key measure in your consideration of entering a process, organization or group, inquire about anti-racism/anti-oppression principles and practices, current presence of people of color, past experiences of people of color, and, if possible, speak to current and past people of color.

Everyone Else (including me)—We all need to be vigilant and vocal as we consider partnerships as we attend events, as we function in our own organizations. We must not only "stay woke" but we must act on and speak up for what we see in our wakefulness!

Trump Can't Stop the Transition From a Fossil Fuel Economy to a Greener, Fairer Future

Samantha Harvey

Originally published June 14, 2017 in Truthout

Two weeks ago, Donald Trump announced the US will withdraw from the Paris Climate accord, claiming the multinational agreement is "unfair," and will cost too much in US jobs and revenue loss. This news came as a blow to many, including environmentalists and members of Trump's own administration. But the 70 percent of Americans who believe in climate science need not despair.

Around the world, people are crafting viable, equitable alternatives to our climate-changing economy. And in the US alone, communities are taking matters into their own hands, proving that a justice-based transition that honors jobs and planet is already well under way. We can unplug from the dirty industry economy, and at the same time, we can thrive.

The idea of a "just transition" came out of US labor movements in the 1990s, and was soon joined by environmental justice groups that saw clear connections between the struggles and missions of workers, communities and environmental stewards. Simply, the "transition" refers to a move off of fossil fuels and hazardous chemicals toward green forms of energy; the "just" part refers to ensuring workers have alternatives, and placing equity, real democracy and ecology at the roots of those alternatives. For example, a truly "just" transition looks beyond greenhouse gas emissions to include co-pollutants, gases and particles that might not have much impact on global temperatures, but have devastating health effects on communities living near power plants. A "just" transition would also make sure those who suffered the worst effects of the fossil fuel economy are the ones who benefit most—by taking leadership over any new businesses, energy sources or employment opportunities in their communities.

Not yet widely used outside labor and environmental circles, the phrase "just transition" made its mainstream debut in December 2015 when it was ultimately plopped (with no small effort) into the preamble of the Paris accord. But this does not mean US withdrawal from the accord has any bearing on the ability of community-based efforts to continue their work. Networks of activists and local leaders, perhaps now at an accelerated pace, will continue sharing methods for opting-out of an economy built off the backs of frontline communities, largely low-income and communities of color. The just transition's strength is its resilience, its attention to culture and worldview. It is bolstered by a flexible, fluid relationship to economy and community rather than a series of edicts to be followed.

Nor is "transition" a matter of leaping from the comforts of fossil fuels into a Stone Age abyss. Despite the fossil fuel industry's years of promoting a narrative that pits environmental protection against a robust economy, over 50 percent of US states have grown their economies while lowering greenhouse gas emissions in the last decade alone. Industry claims of job loss are also overblown: While coal-sector jobs are on the wane due to automation and inexpensive natural gas, there are now more US jobs in solar energy than in oil, gas and coal extraction combined.

Communities are decoupling well-being from the fossil fuel economy, and taking the transition beyond greenhouse gas measurements alone. From Buffalo to Jackson, from Albuquerque to London, Kentucky and beyond, communities are building power with their own hands, developing energy efficiency programs, organizing worker and financial cooperatives, and bringing healthy food back into previously food-deserted areas through community gardens and locally managed groceries. These efforts may not have the money or time to promote themselves, but they are creating a future that could transform and include all of us given the chance, invulnerable to any venal attempts to manipulate facts or dismantle global agreements.

So, we have to ask ourselves, when Trump says the Paris accord is "unfair"—to whom, exactly, is he talking? Surely he's not talking to children of color, suffering at much higher rates than their white counterparts from environmentally related health issues. Nor is he talking to the good people of cancer alley in Louisiana, nor to those in coal country with family legacies of black lung. He's certainly not talking to working immigrants who have no recourse against the petrochemicals dumped on them in

agricultural fields. Job loss is a serious concern, but harping on short-term negative outcomes rather than acknowledging net positive results of environmental targets is an industry-fueled tactic that defies reality and dismisses real, on-the-ground progress.

Trump's rejection of the Paris Climate accord is profoundly misguided, but we don't have to despair. We're simply in a new era—transitioning away from an economy shackled to fossil fuels, moving toward a fairer, greener future. It's a transition led by our neighbors, changing the world honestly with their own hands. Our leaders can support the transition, or they can get out of the way, but they can't stop it.

Reflections on Houston in a Time of Contradiction

Samantha Harvey

Originally published October 2, 2017 in Earth Island Journal

Last October I visited Houston for the first time. I grew up in the Midwest and have spent half my life in New York City—perhaps the least Texan person possible—but aside from a few cultural differences involving cowboy boots and biscuit-heavy restaurant menus, my background turned out to be good preparation. I was neither cowed by Houston's skyscrapers nor confused by the hospitality of a Southern city's people, familiar as the unsolicited smiles Midwesterners give complete strangers.

Because of this, perhaps, I found Houston comfortable, utterly pleasant, welcoming, warm, easy, and yet . . . the downtown streets at night were deserted, wide, silent. And the ten days or so I spent there transpired strangely, feeling at times much longer than ten days, flipping dramatically between blasting air conditioning and sopping gulps of hot humidity, women and men in slick suits with shiny shoes, women and men in drab clothing covered in dust, or seen from afar framed by open flames on pits of scrap metal.

In New York City it's easy to feel resilient to the woes of the planet; even in the throes of Hurricane Sandy, many of us continued to eat well and sleep well above 42nd Street. But in Houston, the relentlessness of the heat, the stark discrepancy of bright cleanliness with belches of pollution down the road...in Houston, perhaps, I saw in sharper focus the inevitability of a future many are already living. A deepening divide between "insiders" and "outsiders," the last gasps of an industry that suckles while it strangles. And today, of course, as the shock of Hurricane Harvey transforms into an increasingly familiar monotony of government bureaucracy, plodding clean-up, and despair of lives lost and put on hold, today it is up to all of us—victims and witnesses alike—to name these contradictions and fight for a more equitable future for all.

But I knew none of this when I arrived in Houston last October, to attend a series of meetings led by the Building Equity and Alignment for Impact (BEA) initiative and hosted by local group Texas Environmental Justice Advocacy Services (TEJAS). The meeting brought together grassroots, national "green groups," and philanthropy with the goal of building alignment around the then developing Clean Power Plan (CPP), that late Obama era rule that would have put limits on a sector of power plant emissions, but still fell short of addressing the kinds of site-specific reductions and long-term health implications important to communities living on the frontlines of dirty industry.

A year ago, the CPP seemed wholly insufficient. Of course none of us had any idea just how bad things were about to get, just how blatant and unapologetic the following administration would be about abandoning frontline communities to maintain industry's favor. These communities, represented last year in Houston by environmental justice groups, were and are overwhelmingly immigrant, low income, and communities of color, stuck living and working in the backyards of power plants, landfills, incinerators. In short, polar opposites of the sequestered cabal of dour billionaires who, overwhelmingly white and male, control the dirty actions and green-washed messaging behind the industries responsible for poisoning them.

The meeting attendees hashed out the CPP in downtown Houston, sitting inside the conference rooms of a sparkling-clean, air-conditioned hotel with flowers and bowls of mints on the tables. Each shining tile and lobby armchair seemed designed to shield guests from the knowledge that this oasis was both dependent upon and deep within the belly of the fossil fuel beast. Just a few steps out the door were mazes of skyscrapers bearing names of extractive industry companies from all over the world. And just a short drive from the hotel were the Houston Ship Channel and Manchester neighborhood, thick with contaminated schoolyards, residential windows permanently shut against stinking air, mountains of scrap metal leeching smoke and particulate matter.

The CPP meeting convened at the same time the Standing Rock camp in North Dakota was at its height, bringing together native tribes and allies from across the country to block the Dakota Access Pipeline from plowing through native prairie lands, farmland, a sacred burial site, and community water supplies. While we strategized ways to strengthen

climate policy against emissions already poisoning the atmosphere, friends 1,000 miles away were hunkering down for what would soon become a life-threatening fight against government-sanctioned violence and corporate surveillance; a struggle to stop destruction before it happened rather than waiting passively for the contamination that the pipeline would inevitably spill into their community.

Energy Transfer Partners (ETP), the monolith behind the Dakota Access Pipeline, had headquarters in Houston just minutes away from the hotel where the CPP meeting was taking place. One day we all took a break to protest, walking the long blocks in the beating sun holding posters that said "No DAPL" and "Water is Life." When we reached the ETP building, it was like all the others—rectangular, catapulting, impenetrable, the only way to differentiate it from other companies' was the name carved in the granite sign on the small, manicured lawn outside.

"Shame!" we shouted, when we reached a stopping place across the street. "SHAME!" We screamed at the building and pointed accusatory fingers at the windows, even though the mirrored treatments reflected our own images back to us. We had no way of knowing if anyone inside saw us, or heard us, or even stopped to glance at our posters. An immutable security guard stood out front, dark glasses covering his eyes. Eventually we turned around and walked back to the hotel.

That night of the protest, bothered, dissatisfied, I ventured out alone to get another look at those glass-faced skyscrapers. Even without the Texas sun the hot air blanketed my nose and mouth, and I was quickly covered in a layer of slow-moving sweat. I walked with the hotel to my back and took a right turn at the light, as I remembered we'd done earlier in the day. But I quickly lost my way, gazing down one silent street and then another, walking faster and then doubling back. The streets were empty, and I began to feel threatened in a way I've never felt in New York. The homogeneity of the buildings' facades and the underlying lull of their nighttime hum made it hard for me to discern how far I'd walked from the bright hotel lobby, with only the names of energy companies on the signs outside to illuminate the boulevards. Red lights blinked remotely from security cameras recording the empty foyers of the buildings, the legs of my journey differentiated only by the shifting colors of this ghostly pallor.

By the time I took that solitary night-time walk in the streets of Houston, I'd learned a little more about the scope and ubiquity of the contamination in low-income neighborhoods of the city. Earlier in the week, TEJAS led a small group of out-of-towners on one of their "Toxic Tours," a multi-stop drive through some of the parks, schools, and neighborhoods flanked on all sides by refineries, chemical plants, and Superfund sites, less than an hour to the east of downtown. Perhaps more sobering than the lists of contaminants, recited at each stop with practiced detail by the TEJAS tour guide, was the short distance between stops.

In the beginning, the group gasped, "How is this possible?" We narrowed our eyes in disgust and piled back in the van, only to climb back out almost immediately. After the third or fourth stop we were quiet; we stopped exchanging looks. The sites of massive contamination were so close together, creating such a concentrated soup of toxicity, the unyielding tenacity of TEJAS and other environmental justice groups living at industrial ground-zeros came into sharper focus. This was an uphill battle and a non-negotiable one; this was a fight over life and death.

A couple of hours in, the van pulled off into the parking lot of an elementary school so a few of us could use the restroom. It was a weekend and the school was empty, but our tour guide knew someone working inside. She opened the door for us and led us through the gymnasium, past a cork-board on the gym wall that had been converted into a kind of shrine to a young student—a girl who looked to be about six years old. The board was completely filled with photographs. In one, the girl held a stuffed doll, in another she giggled as she got her toenails painted. In another, she sat in a hospital bed with an IV in her arm. Even in this one, she smiled. Well-wishes and messages of hope surrounded the photos on the cork-board. The employee informed us that the school used this board to honor students and neighborhood kids who had died.

In that moment, in the eyes of the little girl and ghosts of friends who had preceded her, statistics of elevated rates of rare childhood cancers in the direct paths of the petrochemical industry became more than numbers on a page. Our group returned to the hotel with a new lens; everything was sparkling clean, and everything was toxic. Everyone friendly, and yet going about their days as communities down the road suffocated.

But I don't blame Houstonians. To be American, no matter where you live and work, is in one way or another to be a hypocrite. As we recognize the pestilence the fossil fuel industry is perpetrating on communities, through climate change, toxics and environmental racism, we all continue to participate. In fact, many of us have no choice, or feel we must unplug 100 percent or not at all, because anything less than 100 percent would be living contradiction, dismantling the system with one hand while continuing to support it with the other. Unable to drop out completely and live off the grid, aside from the few skilled enough, or brave enough, or safety-netted enough, we are all complicit in some way. We have little choice but to participate.

Initiations often involve some act of violence or humiliation for this same reason—to prove that *you are no better than us*. And once that's been proved, the ability to complain, to protest, to suggest a better way, has effectively been removed. Environmentalists are often discredited because they still fly in airplanes, they use computers, they have cars and central heating. All this is true, and feeds the contradiction many activists feel.

However, a concept called "Just Transition," originating from labor movements and joined more recently by environmental and social justice groups, takes this contradiction into account, ensuring that while we stop the bad, we build an ever more detailed and realistic "new," to support communities in a transition off of fossil fuels. The 30-plus member organizations of Climate Justice Alliance, in their analysis behind newly-released Just Transition Principles, call for us to "decolonize our imaginations" and "divorce ourselves from the comforts of empire." The "comforts of empire" they acknowledge name the contradiction that's become a defining factor of modern life, and the call for "divorce" commits to a new vision for society and planet.

And, as we move toward a fossil fuel transition that will either be by planned design or panicked necessity, we are now witnessing a final backlash of corporate greed beyond all reason, manifesting itself in the highest levels of government with a climate denier appointed head of the Environmental Protection Agency and a former CEO of EXXON the Secretary of State. Our very own President denies climate change and has proposed cuts to FEMA, the agency many victims of Harvey are already hesitant to call upon for fear of deportation.

But instead of despairing at this lock-down on fossil fuel "business as usual" and the unending footage of people on rooftops, in mass shelters, digging through soggy remains of homes, instead of despairing, I think about that day in the streets of Houston, shouting "Shame" at Energy Transfer Partners. Last year, the windowed walls seemed to loom over us, projecting a feeling of authority, impenetrability, of secure systems and secrets behind. But if we weren't certain before, today we know those buildings are just as flooded, just as deserted and confused as lights flicker and automatic locks shut off.

Perhaps one gift the Trump administration has given us is the final lifting of this veil—just in case there was any lingering faith that authority still meant something and could be depended on. Now we no longer need suspect. Benefit of the doubt is over—it's all a façade, a sham, a bully's blow-horn silencing a people's wisdom. So now we know. What we do with this knowledge holds the key to the future.

SECTION VI

Energy

Championing Alternative Energy Systems in the Trump Era

Laurie Mazur

Originally published March 30, 2017 in Grist

These are challenging times for environmental justice—at least at the federal level. Earlier this month, Mustafa Ali, who led environmental justice work at the U.S. Environmental Protection Agency, resigned rather than preside over the dismantling of his program.

To understand the prospects for environmental justice work in Trump's America, we gathered (by phone) an impressive cadre of leaders from across the country:

- Denise Abdul-Rahman, environmental climate justice chair for NAACP Indiana in Indianapolis;
- Angela Adrar, executive director of the Our Power Campaign and Climate Justice Alliance in Washington, D.C.;
- Cecilia Martinez, cofounder and director of research programs at the Center for Earth, Energy and Democracy in Minneapolis, Minnesota; and
- Elizabeth Yeampierre, executive director of UPROSE in Brooklyn, New York.

Charles Ellison, contributing politics editor for *The Root* and founding principal of B|E Strategy, moderated the conversation.

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Q. Ellison: In the Trump era, the prospects for progress on environmental justice at the federal level seem rather grim.

But even in this political landscape, there's discussion about building alternative systems. What are those exactly?

A. **Martinez:** When the political system does not provide for the common good, those that deal with the consequences have to be creative, innovative, and action-oriented. And we do see that. All kinds of communities are coming together to try and figure out how to build systems that are both environmentally sustainable and equitable. Cities are leaders in developing plans on climate action and adaptation, irrespective of what federal legislation or international agreements are in place. That kind of action is feeding into a locally based national and international movement. The challenge continues, though, to move states and cities to incorporate justice into their institutional work.

Abdul-Rahman: Communities on the front lines can lead the way. We've formed a group called Women's Voices Unheard [in Indianapolis], and we're asking the women about their concerns and issues. We give them the tools and the knowledge they need to speak for themselves.

We look at the contrasts between communities. Who gets to have an aesthetically pleasing environment? Which community gets the natural gas plant that emits methane, or the coal-fired power plant? Who gets to decide about issues affecting the community? Then we look at another vision of how we can control our own destiny by honing in on solar and wind, and how our communities can benefit by getting the training and the jobs. We present another vision of the future, where we as human beings and as communities can change our own destiny. We can utilize our power and speak truth to power.

Adrar: With the issues we're facing in frontline communities, we can go issue by issue, rule by rule—or we can look at the underlying root causes. We see the enclosure of wealth and power; Trump's cabinet is one of the wealthiest in modern history. That creates an opening for greater extraction of fossil fuels and more human rights violations in our communities. So as our

Native friends [who've been] marching in D.C. are saying, we have to end this colonial mindset.

Yeampierre: We need to build an economy that is not extractive, but regenerative. In our industrial waterfront community [in Brooklyn], we've been working with industries to operate in a way that's cleaner, retrofitting to reduce emissions. Our vision is to use the industrial waterfront as a place that creates good jobs in green industries—like building offshore wind turbines or community-owned solar. We see this as a solution that could prevent people from getting displaced, while addressing climate change and environmental justice.

Q. Ellison: Displacement is a big problem: As people are pushed out of gentrifying cities, we are seeing the rise of poverty in suburban areas and surrounding exurbs. How do you discuss and address that?

A. **Martinez:** I think it points to the deep structural issue that Angela talked about. There was a racial and class dimension to suburbanization in the first place. Suburbanization could not have happened without federal policy constructing a highway system that destroyed many communities of color. The reason many of our communities of color are in the state that they are in is because of federal policy and housing policy that promoted segregation, and redlining that extracted capital from certain communities to the benefit of others. So it was not an equal process.

We've been able to institute some policies and laws that hopefully prevent the most egregious of those abuses, but the reality is that the dynamic still continues. So now white middle-class people are leaving the suburbs, which leaves these areas open to people of color and low-income communities. The amenities move with the capital and with the middle class, and the low-income communities that are left behind suffer.

Q. Ellison: Those low-income communities of color are going through some real struggles and disruptions on the economic front. So there's got to be a tug-of-war between the need

for jobs and economic growth in those communities and protecting the environment and the climate. How do you strike that balance?

A. **Yeampierre:** It doesn't have to be one or the other. The clean energy jobs we are promoting in the industrial waterfront pay $60,000 a year, and come with benefits. That would make it possible to retain the community, to keep people from being displaced. But the New York City Economic Development Corporation is going with conventional development models that would basically turn our community into a workforce for the privileged in their own communities. There is an opportunity to do it differently—to address climate change and create jobs.

I completely agree with what Cecilia is saying. In our community, we've had to bear all the environmental burdens. But the moment we start fighting for the amenities, all of the sudden we can't afford to live here anymore. Even our successes have displaced us. So our park, our greenway, the fact that we stopped a power plant from being sited in the neighborhood—all of our victories are being used by developers to displace us.

Martinez: The reality—at least in the communities I work with—is that people are very aware of environmental issues and that it isn't a tradeoff between economic development and environmental sustainability precisely because of the public health impact. So in our communities—whether they're Latino, African-American, or Native—there isn't the kind of disconnect that is popularly assumed between environmental sustainability and economic development. The question is, how do we bring those two together with the appropriate investment and in a way that is equitable and provides the kind of benefits these communities have been lacking in the past?

Adrar: I really appreciate that because, based on the intersectional work we've been doing since the administration came into power, it's clear that groups are mobilizing around environmental issues in a way that makes sense to them, using a different

narrative than what we've been used to hearing in the media around carbon emissions.

We understand that climate change is a catastrophe: It's going to lead to flooding, droughts, and it's going to shift migration around the country and around the world. But groups are looking at how to create solutions for that. We are talking about a "just transition" away from the extractive economy and creating tools for reinvestment in communities. We want to create safeguards and make sure that public investment goes into these communities in ways that lead to community control of energy and resources. I just got off a Movement for Black Lives conversation yesterday and they're talking about divestment and reinvestment. Indigenous groups have moved incredible amounts of money from the fossil fuel industry.

Q. Ellison: Does the new political and social environment change how you think and strategize?

A. **Abdul-Rahman:** Indiana is now a hyper-conservative state, and we are continuously battling a lot of bad policy. So we find ourselves battling redistricting deals and anti-Ban the Box laws and laws against obstruction of traffic to prevent folks from being able to protest. For us it just means we need to organize more intensely and intentionally. For example, our communities—when they're inundated with pollution—need to advocate for community benefits agreements, so they can benefit from the jobs and the movement of making their communities cleaner and better.

Q. Ellison: The innovation sector is so focused right now on creating technologies of convenience and efficiency. The word disruption is used quite a bit. What sort of pressure could we put on the innovation sector, on Silicon Valley, to develop technologies that help heal the planet?

A. **Yeampierre:** I think that these innovators should have people representing frontline communities at the table before they even shape these technologies. There is technology called carbon capture and sequestration that we oppose because it keeps

us dependent on coal and other fossil fuels. So although it may be innovative, it is still not environmentally just.

So these folks could start by having a conversation with communities, saying, "What do you need, and how can we use our skills, our resources, our power, and our access to technology to address community needs?" Instead, what they do—because they're competitive and top-down and their behavior mirrors the problem that got us here in the first place—they create technology that we then have to stop, to react to, to respond to.

Adrar: At COP22 at Marrakesh [the 2016 United Nations Climate Change Conference], when [then-Secretary of State] John Kerry said that the private sector was going to be the savior of the climate, we knew there was going to be favoritism toward techno-fixes and market-based solutions. I don't want our energy sector to make the same mistakes that the industrial agriculture sector made. We're overproducing food, but there are still hungry people on the planet, and we've overlooked ancestral wisdom and knowledge from native peoples, peasants, and people who've lived on the land.

Martinez: We have to keep in mind that technology is not neutral. Technology embodies certain social and political principles, for better or worse. Our energy system is a major contributor to climate change, and we have not integrated its social cost, its environmental cost in the market of technology development. We have an obese energy system, which is geared toward producing an abundant supply of energy year after year, into the next century. But what is the role of our community in managing, operating, and making decisions about that energy system? We need to ask: Energy for what? And energy for whom? And how do we incorporate those costs? That's inherently what energy democracy is all about.

Q. Ellison: What are you working on right now?

A. **Adrar:** What *aren't* we working on? A lot of our groups are working on rapid response, collaborating to be more responsive to direct threats to communities—on issues like immigration,

police abuses and the defense of black lives, and the indigenous struggle. The Climate Justice Alliance just put forth a new strategy plan that has an ambitious goal of developing 50 Just Transition campaigns around the country, which means we'll be working with communities to understand the framework, share tools, and develop collective strategies.

Yeampierre: We've got three community-owned solar initiatives, and we've spent a lot of time thinking about what governance and financial engineering look like for a utility that would be owned by low-income people. And, in partnership with the Climate Justice Alliance, we are organizing the largest gathering of young people of color on climate change in the country, scheduled for Aug. 3 this year at Union Theological Seminary.

Abdul-Rahman: Our main mission is to work on energy-efficiency policy and climate resistance and moving more renewable, clean energy. In East Chicago, where drinking water is contaminated by lead, we are delivering water and filters and helping the people lift up their narrative. We recently filed a petition with some other groups to rebuild East Chicago's water infrastructure, which is connected to making the community resistant to climate change and creating a new vision. In lieu of being gentrified, could we build affordable housing there? Could this affordable housing have solar on it? And who gets to build that? We want to help move that community forward toward a just transition.

Martinez: We are continuing to do research on how you develop climate-resilience indicators from the perspective of communities, particularly communities of color and low-income communities. I think everybody on this call is also working on a very important national initiative called Building Equity and Alignment for Impact, which is about shifting philanthropic and other resources to grassroots community organizations and environmental justice groups that have not been funded at the level of larger mainstream environmental work. And, given that the federal state of the art right now is problematic for moving environmental justice issues, we continue to look for other policy levers at the state and local level.

Energy and Climate Change Are Civil Rights Issues

Charles Fanniel

Originally published August 25, 2017 in The Arizona Republic

Arizona is the sunniest state in the nation.

Yet only about 5 percent of the state's electricity is generated from solar energy. And Arizona added fossil-fuel pollutants faster than any other state between 1990 and 2007, worsening air quality, contributing to climate change and increasing the frequency and severity of forest fires, drought, heat waves and other extreme weather events.

Under the influence of powerful utility companies that have long enjoyed a monopoly on electricity sales, state regulators have put policies in place that maintain our reliance on coal, natural gas and nuclear energy, and make renewable energy ownership increasingly inaccessible.

Communities of color and lower income communities pay the biggest price for dirty energy, in both exposure to pollution and also in percentage of income spent on electricity.

Phoenix is among the most heavily polluted cities in the nation, especially where I live in south Phoenix. My ZIP code is among the dirtiest the nation, and home to 40 percent of the city's hazardous emissions.

Shifting to renewable energy will help improve the health and well-being of our communities while also creating economic opportunities.

But those of us who would benefit the most from innovations like rooftop solar are currently accessing these technologies the least. Low and moderate-income families make up 40 percent of the U.S. population but only 5 percent of rooftop solar owners.

While we will all benefit indirectly from expanded renewable energy use in Arizona, we need to remove barriers and create pathways for more households to produce their own electricity through rooftop solar or subscribe to neighborhood community solar projects.

What will it take to create the renewable energy future for Arizona we want and urgently need? The recently released Arizona edition of the NAACP report *Just Energy Policies: Reducing Pollution and Creating Jobs* points the way forward.

For example, Arizona can implement statewide policies that promote distributed energy generation and fairly compensate individuals who generate a portion of their own electricity through rooftop or community solar.

One way to do so is with "net metering," which allows households to reduce electricity bills by generating a portion of their electricity through rooftop solar panels that are connected to the grid.

When the panels generate more energy than the customer needs, excess solar power is sent back to the grid and households receive a credit on their utility bill for excess electricity produced by their system. Strong, retail-rate net metering policies offset costs for solar power owners and make going solar an affordable option for more people.

While net metering is an important policy for making rooftop solar cost effective, we also need solar policies that enable participation for those who face economic and physical barriers to installing solar on their own roofs.

Shared solar typically operates in one of two ways. Through an ownership model, participants own some portion or a share of an offsite solar project and benefit from the power produced through their share of the project.

Virtual net metering allows owners to receive the net metering credits associated with a remote system with which they do not share a meter.

A subscription model allows participants to subscribe to and pay a lower price for electricity sources from a local community solar project.

Both of these shared solar models make solar energy more accessible for lower income customers, who might otherwise be cut out of the solar market because they are renters, don't qualify for loans and financing options, or can't afford the upfront costs to install solar.

Opponents of solar often claim that these energy sources will only benefit wealthy households. In reality, distributed energy generation spreads the economic benefits across communities rather than keeping them concentrated among a handful of electricity monopolies.

Despite common talking points by utilities, independent studies demonstrate that net metering has net benefits for all ratepayers when structured correctly, as summarized in a recent Brookings Institution Report. And while bad policies can keep the benefits of renewable energy in the hands of the affluent few, regulators also have the power to create a more inclusive solar market that empowers broad participation on an individual and community level.

With double-digit unemployment in too many of our communities, we also need to pave pathways for equitable access to economic opportunities in the new energy economy.

Solar is among the 10 fastest-growing industries in the country, with one out of every 50 new jobs created by the solar industry. Likewise, wind power technicians enjoy the fastest job growth in the United States.

Increasing renewable energy generation in our state will diversify our economy and create new jobs. Still, we need state policy mandates that require contractors with publicly funded projects to recruit a specified proportion of local residents as workers on the project, with special attention to disadvantaged groups. In this way, we can ensure that economic gains are distributed equitably and benefits remain within the community.

Arizona has some of the greatest renewable energy generating potential in the country, but our outdated energy practices are keeping us in the fossil-fueled past.

At the end of 2016, the 2,982 megawatts of installed solar in Arizona was just a fraction of the 18,296 megawatts installed in California. We're

ranked seventh in the country for solar jobs, with 7,310 in 2016 compared to more than 100,000 in California.

Arizona needs policies and programs that incentivize renewable energy use and make these resources more accessible. But until we pass campaign finance reform and get dirty, fossil-fueled money out of our political systems, it will continue to be incredibly challenging to pass the policy changes we desperately need.

Arizona needs energy policies that invest in the people and our future, not in the profit margins of a handful of special interests. We call on state policymakers to facilitate a rapid transition to clean, renewable energy and to implement equitable policies that are inclusive to those communities who stand to benefit the most.

Solar Power With Storage for All? Philanthropy Can Help Make It Happen

Lewis Milford and Rob Sanders

Originally published June 28, 2017 in Inside Philanthropy

New forms of solar and battery-powered energy could soon be accessible to all—with some strategic assistance from the philanthropic sector.

Recent years have brought revolutionary changes in clean, renewable solar energy markets. The cost of solar panels has plummeted. And there have been breakthroughs in supporting technology: Sophisticated battery backup systems store excess power for when the sun doesn't shine, reducing utility bills in multiple ways. These "solar + storage" systems are reaching a robust, market-acceleration phase as costs decline and technology becomes cheaper and more efficient.

Unfortunately, solar + storage has yet to penetrate the markets where it's needed most: low-income communities in rural and urban areas. Clean energy companies are mainly marketing their innovations to commercial customers seeking to improve their bottom lines. Low-income communities are still awaiting their turn.

That's a huge missed opportunity. Solar + storage systems in affordable housing could slash utility bills for low-income tenants and homeowners, helping to keep families from sliding further into poverty. Installed in food banks, fire stations and emergency shelters, those systems could build community resilience by maintaining critical services when grid power is disrupted. (And we can expect more power disruptions, as a warming planet brings more extreme weather.) Finally, by reducing reliance on fossil fuels, solar and battery power can slow the advance of climate change.

Why has the market failed to deliver clean energy to those most in need, and what can foundations do about it? A new report offers some timely answers.

The report, *A Resilient Power Capital Scan: How Foundations Could Use Grants and Investments to Advance Solar and Storage in Low-Income Communities*, is the first empirical analysis of the solar + storage market. It was informed by interviews with over 30 industry leaders, advocates, foundation officials, and state and local policymakers. Commissioned by the Kresge Foundation, the Surdna Foundation and the JPB Foundation, the report was authored by the Clean Energy Group (CEG), a nonprofit working to bring about clean energy equity.

The report suggests a rigorous, comprehensive approach to bring solar + storage power to low-income communities—one that understands and harnesses the free market while acknowledging the market's limitations.

The report found a series of structural market barriers, including gaps in technical capacity, data, finance and regulatory policy. Importantly, the authors identified more than 50 interventions—ranging from grants to program-related investments and endowment investments—that could surmount those barriers. For example

- **Working capital.** Provide pre-development funding to support the identification and development of appropriate sites and projects, and to help low-income groups build capacity to capitalize on opportunities in their communities.

- **Reduced risk.** Provide credit enhancements to reduce risk for investors and building owners through "performance loss reserves" that reimburse monetary losses from unrealized economic benefits.

- **Financial incentives.** Create incentives to encourage owners of affordable housing to implement solar + storage solutions as they renovate their properties or plan new ones.

- **Project software.** Support the creation of an online software platform to assess the technical and financial feasibility of solar + storage in affordable housing and nonprofit-owned facilities.

- **Better data.** Collect and disseminate data on the potential of solar + storage to reduce electricity bills, particularly in affordable housing and community facilities.

- **Community mandates.** Support mandates for localities to require installation of solar projects in community facilities.

- **Standardized transactions.** Support nonprofit intermediaries' efforts to streamline and standardize deal structures and documents to facilitate the aggregation of financing for bundled projects.

If deployed at scale, these strategies could reshape markets and greatly improve access to solar and stored energy. "This report is an important step toward ensuring that the benefits of solar + storage are shared equitably," said Lois DeBacker, managing director of the Kresge Foundation's Environment Program.

That's important, for obvious reasons: Low- and moderate-income families have the most to gain from affordable, clean energy. It's also important to secure ongoing political support. If the benefits of new solar + storage technology accrue mostly to affluent corporations and homeowners, there will not be a broad constituency for policies and programs to encourage the rapid diffusion of renewable power. Broad support is especially needed now, as we face a new administration whose clean energy strategies seem unclear at best.

Foundations have a crucial role to play. They can step in where markets fail, making strategic grants and investments to extend solar power to underserved communities. In this way, they can jumpstart a just energy transition, with clean, affordable power for all.

Getting Energy Efficiency to the People Who Need It Most

Laurie Mazur

Originally published August 10, 2017 in Governing

As the saying goes, "The poor pay more." This is certainly true when it comes to energy costs: Low-income households (both owners and renters) pay more for energy per square foot than their affluent counterparts. And as a percentage of income, low- and moderate-income families pay up to three times more than average on utility bills.

Energy efficiency is part of the solution: It can reduce energy burdens by as much as 30 percent. But even the best-intentioned efficiency programs often fail to reach low- and moderate-income households. Those households may not be able to take advantage of incentives because they lack the upfront capital to invest in efficiency upgrades, for example. And they lose out on tax incentives because they don't live in high-efficiency housing or can't afford to purchase newer fuel-efficient vehicles.

So as cities boost their investments in their own energy-efficiency programs, urgent questions arise for local leaders: Are our programs reaching the people who need them most? And if not, how can they be redesigned and retargeted to meet that goal?

To answer these questions, the American Council for an Energy Efficient Economy has introduced three new "equity metrics" to its *City Energy Efficiency Scorecard*, a biennial report that ranks 51 large cities on their efforts to save energy. For the first time, the 2017 Scorecard assesses cities' and utilities' efforts to bring energy efficiency to underserved markets. Two measures evaluate the efficiency programs available to low-income and multifamily utility customers, while the third assesses cities' efforts to provide affordable housing in transit areas.

The results are striking. On the first two metrics, only 11 cities and their utilities received full credit for reaching both low-income and multifamily customers: Baltimore, Boston, Chicago, Denver, Detroit, Minneapolis, Providence, San Diego, San Francisco, San Jose and Seattle. This represents roughly 20 percent of the cities included in the Scorecard, suggesting that many more cities and their utilities could step up to serve low-income households.

The report offers some inspiring case studies. For example, San Diego partners with its utility, San Diego Gas & Electric (SDG&E), to provide rebates for installing energy-efficient products in apartment buildings, mobile-home parks and condominiums. SDG&E also offers direct subsidies to low-income customers for efficiency upgrades.

And as part of Minneapolis' Clean Energy Partnership, natural-gas and electric utilities coordinate with the federal government's Weatherization Assistance Program to upgrade the efficiency of their low-income customers' homes. The utilities also offer incentives for multifamily building owners, and higher incentives are provided to owners of affordable apartments.

"We have known for some time about the inequitable participation in utility energy-efficiency programs," said Luke Hollenkamp, Minneapolis' sustainability program coordinator, "so we are working closely with our utilities, Xcel Energy and CenterPoint Energy, to tackle this issue. The first step was identifying in our partnership's 2016 Annual Report neighborhoods that are lagging in program participation; the second step is to engage with community organizations to pilot new strategies to underserved communities. Then we will be able to target outreach to those areas with the greatest need."

On the third metric—provision of affordable housing in areas served by transit—there is even more room for improvement. Only three cities earned full points here: Los Angeles, New York and Portland, Ore. The challenges, of course, are stark. Because of gentrification and urban sprawl, low-income communities are increasingly isolated and inadequately served by affordable, efficient transportation. People living in those communities are often dependent on cars, which can mean costly expenditures for vehicles, fuel, insurance and maintenance.

In the Scorecard, cities earned points by requiring affordable housing for new developments in transit-oriented areas or by preserving existing affordable housing in those areas. The three cities that did well in this category offer tax abatements and/or other incentives for the construction of affordable housing within a short distance of light-rail station areas. For example, Los Angeles' Metro adopted guidelines for its joint development portfolio to include a minimum of 35 percent affordable housing units, and its Transit Oriented Communities Loan Program supports affordable housing in transit-oriented areas.

Energy efficiency and public transit offer extraordinary benefits—for the planet, for public health and for our pocketbooks. But the 2017 *City Energy Efficiency Scorecard* shows that those benefits are not yet distributed equitably. Going forward, cities must be intentional about investments in energy efficiency, ensuring that those investments reach the low- and moderate-income households that bear the heaviest burden from high energy costs.

Cities' Path to 100% Clean, Renewable Energy

Laurie Mazur

Originally published June 28, 2017 in Governing

Although President Trump has committed to pulling the United States out of the Paris Climate Accord, many of our cities are still moving full steam ahead to clear the air and fight climate change. More than 200 U.S. municipalities have declared that they are "still in" on meeting the Paris targets. And dozens of cities—large and small, in red states and blue states—have pledged to shift by midcentury from dirty fossil fuels to 100 percent clean, renewable energy.

Many of these cities have already implemented clean-energy programs, including powering municipal buildings with renewable energy and launching pilot programs for emerging energy-saving technologies. But achieving 100 percent renewable energy will require bringing these efforts to scale. A new report by the Meister Consultants Group, *Pathways to 100: An Energy Supply Transformation Primer for U.S. Cities*, is designed to help communities craft an effective strategy.

Those cities face a complex and varied array of choices and challenges. A common barrier is that most of them lack direct control over their energy supply, and many policies are set at the state, regional and national levels. So to reach 100 percent renewables, each city must blaze its own unique path.

The first step is to map the energy landscape. What type of utility serves the city? What are the relevant state energy policies and regulations? With that information in hand, city leaders can develop an appropriate strategy.

Some strategies are aimed at energy consumers. A city, for example, may offer incentives or help streamline the process for residents who want to install renewable energy. That's what Somerville, Mass., did in 2016. Its

"Solarize Somerville" campaign resulted in more than 500 kilowatts of new solar capacity, bringing the city closer to its goal of carbon neutrality.

Other strategies harness the purchasing power of city government by establishing renewable-energy purchasing requirements for municipal buildings. In 2011, Austin, Texas, met its goal to supply all city-owned buildings and facilities with 100 percent renewable energy as called for in a 2007 city council resolution.

And cities can enlist their local utilities in setting and meeting energy-supply goals. An inspiring example comes from Minneapolis, which forged a partnership with its investor-owned utility. Minneapolis' city-utility Clean Energy Partnership established joint renewable-energy goals as an integral part of the city's contract with the utility.

The final and all-important step is to organize for energy transformation by ensuring that the right staff, resources, partnerships and support are in place to implement the city's strategies. This includes securing broad support from residents, local institutions and the private sector by seeking input from community-based organizations, nonprofits and private-sector groups.

The shift to renewables offers obvious benefits for the climate and public health. Perhaps less obvious are the opportunities to redress the inequities of the fossil-fuel-based energy system, in which low-income communities and communities of color suffer disproportionate harm. A renewable energy system can create jobs and spur economic development in underserved communities, ensuring that the benefits of renewables are widely shared.

To achieve a more equitable outcome, San Francisco established GoSolarSF, a program that offers incentive payments for residents, businesses and nonprofits installing solar energy. The city offers higher incentives for low-income residents and for residential installations in neighborhoods that have borne the brunt of industrial pollution.

The *Pathways to 100* report offers examples tailored to a wide range of goals and circumstances. "Ultimately, there is no one path to 100 percent renewable energy," says Chad Laurent, vice president of the Meister Consultants Group, "but there are many ways to get there." A handful

of American cities have already arrived at that destination: Aspen, Colo., Burlington, Vt., Greensburg, Kan., Kodiak Island, Alaska, and Rock Port, Mo. And research shows that it's feasible to achieve 100 percent clean energy across the U.S. by 2050 or sooner.

President Trump's decision to withdraw from the Paris Accord certainly has sidetracked our nation's global leadership on climate change. But as *Pathways to 100* makes clear, there are numerous paths forward for our cities to achieve the clean-energy future their residents need and want.

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Introduction by Laurie Mazur

Interested in learning more about urban resilience in the era of climate change? *Resilience Matters 2016: Sustainable, Equitable Solutions* is an e-book compilation of articles, blog posts, and op-eds from the Urban Resilience Project in 2016.

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- Malign Neglect? What Will Urban Policy Look Like Under a Trump Presidency
- What Can the Abolitionists Teach Us About Climate Change?
- People Power: How Residents of Northern Manhattan are Creating an Energy Revolution
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