Speech by Rip Rapson:

The 'Fierce Urgency of Now': Getting the Climate Question Right

April 9, 2013, address at the University of Michigan Law School's Environmental Law and Policy Program Lecture Series.

April 9, 2013

I'm delighted to be counted among the speakers and thinkers who have been part of the Environmental Law and Policy Program Lecture Series.

I'd also like to thank Dean Evan Caminker of the Law School, Dean Martin Philbert of the School of Public Health, and Dean Marie Lynn Miranda of the School of Natural Resources and Environment for their roles in tackling some of society's most intractable issues. And I'd like to extend a special note of appreciation to Professor Rosina Bierbaum, who has guided my thinking in climate change for many years now.

Robert F. Kennedy Jr. once began a speech by observing: "I have a speech which it is my responsibility to give and you have a responsibility to listen to it. I have an obligation to deliver these remarks. You have an obligation to listen to them. If you finish before I do, however, please let me know." Same rule this afternoon.

Introduction

Given all those who have come before me – and in light of the flood of research, commentary and political discourse that have swirled around the endless dimensions of climate change – it may not be immediately self-evident what a foundation president might add to your understanding. Rest assured: I will talk about what I know – which is the philanthropic perspective.

I'll structure my remarks into three parts:

- A few observations about Kresge's overall focus on improving opportunity for low-income people

living in America's cities and why a foundation with that focus feels so strongly the imperative to address climate change;

- Some observations about the qualities of private national philanthropy that equip it to make a significant contribution to the field; and
- Some reflections about how all of this may affect you.

I. Kresge's Urban Opportunity Frame: Cities and Low-Income People

So first, a word about The Kresge Foundation.

In 1912, Sebastian S. Kresge and a partner opened the first five-and-ten-cent store – a revolutionary merchandising idea at the time. Over the next half-century, he parlayed the concept and operations into a chain of stores that were incorporated as the S.S. Kresge Co. Many years later, the enterprise became known as Kmart.

In 1924, Sebastian established a foundation in Detroit with the mandate of "promoting human progress." For more than 80 years, that mandate was realized through the support of fundraising campaigns to build capital projects. The Kresge Library at Michigan's Ross School of Business and the Kresge Hearing Research Institute at Michigan's Medical Center – and thousands of libraries, hospitals, schools, museums, community centers and other buildings across the country – stand as testament to the enduring value of that work.

About a decade ago, the foundation began encouraging environmental stewardship as a component of the bricks-and-mortar projects it funded. We gave an early boost to the green building movement by making planning grants to nonprofits committed to improving the environmental responsibility of their new construction and renovation projects, and by awarding bonuses to challenge-grant recipients that achieved LEED certification.

And over the last seven years, Kresge has sought to diversify both its aspiration and its methods. We now seek to contribute to the vitality of American cities to ensure that low-income people have full access to pathways of economic and social opportunity. Because we recognize that urban vitality depends on the presence of a fully functional, integrated and cohesive ecology of multiple systems, we invest in community development, higher education, health, arts and culture, human services and environmental stewardship.

At first blush, work on climate change may seem like an outlier given Kresge's other programs – perhaps like a sidebar to seemingly more immediate threats to the well-being of low-income Americans. Nothing could be further from the truth.

We believe that climate change and society's response to it will define the future of cities. And we believe that climate change threatens fundamentally and disproportionately low-income people. Fundamentally, we see climate change as one of the great social issues of our day.

Let me take each of these propositions – the urban futures story and the social justice story – in turn.

Climate change as an urban futures story

Climate change has set in motion forces that will forever change the nature of life in America's cities. In exactly what form, in what degrees of disruptive severity, and over what period of time is not entirely clear.

But what is clear is that a foundation, or any entity, seeking to strengthen cities cannot ignore that dynamic. Confronting that dynamic in turn requires, to borrow from Rosina Bierbaum[1], that we do two things: avoid the unmanageable and manage the unavoidable.

1. Avoiding the unmanageable

It doesn't seem too much of a stretch to assert as a first principle of philanthropy that everything a foundation does should be predicated on the belief that the planet will remain fit for human habitation. The alternative is just not very attractive.

But a rather unpleasant fact is intruding into that ostensibly innocuous proposition. A unanimity of scientists has concluded that our planet's boundary of safety is no more than 2 degrees Celsius, or 3.6 degrees Fahrenheit, above historical global averages.

A change of just a few degrees Celsius may not sound very scary, but it's a big deal. Anthony Leiserowitz, director of the Yale Project on Climate Change Communication, encourages us to think of the human body as an analogy.

Think about when you get sick, and you get a fever. If your temperature rises by 1 degree, you feel a little

off, but you can still go to work. You're fine. It rises by 2 degrees, and you're now feeling sick. In fact you're probably going to take the day off because you definitely don't feel good. ... You're getting everything from hot flashes to cold chills. At 3 degrees, you're starting to get really sick. And at 4 degrees and 5 degrees, your brain is actually slipping into a coma. You're close to death. ... That little difference in global average temperature, just like that little difference in global body temperature, can have huge implications.[2]

Straightforward enough, one would think. But recalibrating policy and practice to the 2-degree Celsius ceiling currently appears politically, perhaps even practically, unattainable.

How about accepting a 5- to 6-degree increase? Wrong. That kind of temperature increase melts every patch of ice on earth, creating a science fiction version of our planet that makes Kevin Costner's "Waterworld" seem like a documentary.[3]

This is the unmanageable, surely. The question is, how to avoid it.

Most greenhouse gases remain in the atmosphere for centuries or millennia, and the effects of our emissions will last far longer than the age of civilization so far.[4] PricewaterhouseCoopers, not exactly a hotbed of environmental radicalism, warned last year: "The only way to avoid the pessimistic scenarios will be radical transformations in the ways the global economy currently functions."[5]

I don't know about you, but I'm not sure that "radical transformation" is how I would describe our current policy environment in Washington – or Beijing or London or anywhere, for that matter. That might suggest that we would be well-advised to take our bearings from one of the great philosophers of the 20th century, Woody Allen, who counseled several years ago: "More than any other time in history, mankind faces a crossroads. One path leads to despair and utter hopelessness. The other, to total extinction. Let us pray we have the wisdom to choose correctly."

In a little less nihilistic vein, however, let's reconnoiter a third path, one that identifies leverage points across the political, technological, scientific and economic spectrum.

That brings us back to Kresge and cities. We can contribute to finding those leverage points. Through better policy. Through improved practice. Through innovation and entrepreneurship. Through greater public understanding of the stakes. Increasingly, all our decisions as a body politic or a civic community have to

begin with the Climate Question: How will this action affect climate? Will it help stabilize or further destabilize our climate? Are these consequences in society's best interest?

And the question is most urgent for cities. That's where the nation's carbon emissions are concentrated. That's where the majority of U.S. residents live. And that's where the concentration of risk for low-income people is the highest.

2. Managing the unavoidable

Let me turn to the second imperative. Managing the unavoidable.

This speaks to adaptation: How we will adapt to the significant change that is now inevitable regardless of the degree to which society pulls its act together and gets serious about reducing greenhouse gas emissions.

Forget about the 5-to-6-degree-Celsius doomsday scenario. A 2-degree warming commits Greenland to irreversible melting, eventually raising average sea level more than six meters.[6] As Stephen Colbert reminds us, "We have no idea how much devastation that could cause, because it's metric." So let's translate that to roughly 20 feet.

As horrifically complicated as it will be to adapt to rising sea level – think every coastal city you've visited partly submerged – it's only the beginning. Everything will change. Everything.

Let's start with our natural systems. Under a 2-degree-Celsius scenario, we will have to plan for recurring cycles of more violent and unpredictable storms. By one estimate, a 10-fold increase in the frequency of storm surges within 50 years, which means a Katrina-size surge every other year.[7] Our adaptation challenge will, moreover, be compounded as ocean acidification threatens fisheries, as certain plant and animal species are eliminated – and we won't get to choose which ones – and as drought, heat and storms curtail crop production.[8] The underpinnings of our food-production systems and attendant economy will be forever changed.

Beyond our natural systems, Katrina and Superstorm Sandy have provided the most preliminary of sketches of just how complicated it will be to adapt our physical infrastructure to the new reality. We have witnessed the deep inertia that sets in when communities and decision-makers wrestle with whether relocation is preferable to rebuilding, with how to construct sea walls or engineer other precautions necessary to avoid

the shutdown of subway and other transportation systems, with how to come up with the money to upgrade wastewater treatment infrastructure necessary to prevent the suspension of service for extended periods, as Newark was forced to do.

And we will increasingly be forced to anticipate heightened social disruption and humanely embrace those affected. One study found that even four years after Hurricane Katrina, one-third of New Orleans' low-income mothers were still suffering psychological distress or post-traumatic stress symptoms. Professor Marie O'Neill, of Michigan's School of Public Health, warns that hospitalizations and deaths from asthma and heatstroke will continue to rise in a warming world.[9] Multiple studies link higher temperatures to increased aggression and crime.[10]

This is a very large mountain of adaptation challenges. I'll circle around in a minute to ways of chipping away at them. But, at the risk of being hugely simplistic, let me suggest that the first step in preparing for these kinds of changes is to acknowledge that they will, in fact, occur.

The resistance to such a straightforward idea can take your breath away.

You may have read about North Carolina recently banning state scientists from considering climate science in their sea-level projections. The only way I can even think about this outlaw-the-science-you-don't-agree-with approach is to call again on Stephen Colbert. In a riff on how we might apply this way of thinking to other issues we're uncomfortable with, Colbert said: "For example, I don't want to die. The actuaries at my insurance company are convinced that it will happen sometime in the next 50 years. However, if we consider only historical data, I've been alive my entire life; therefore, I always will be."[11]

Viewed charitably, these attitudes and behaviors can be seen as symptomatic of a "pre-climate-change mindset." The luxury of that mindset is, however, no longer possible. We have to adopt a second prong of the Climate Question: What does climate change mean for the effectiveness and longevity of the decisions we make?[12] As Wayne Gretsky advised, we need continuously to skate to where the puck is going, not to where it is.

Climate change as an issue of social justice

All of what I've suggested underscores why climate change is a question that will shape the future form and function of cities. But climate change is equally a question of social justice.

Climate change poses threats to us all, but in almost every case those threats are borne disproportionately by those who are already most disadvantaged: low-income people, the elderly and the house bound.[13]

Just a couple of very concrete examples:

- About three-quarters of the people who died in Louisiana as a result of Katrina were older than 60 and nearly half were older than 75.[14]
- Low-income and minority people are more likely to live in places subject to the urban heat-island effect and less likely to have access to air conditioning. The result, even in a pre-2-degrees-Celsius world, is that heat-related deaths among African Americans occur one-and-a-half to two times the rate as for non-Hispanic whites.[15]
- African American children are hospitalized for asthma at twice the rate of whites and die of asthma at four times the rate of whites, trends that will be unforgiving as climate change worsens the conditions that trigger asthma attacks.[16]
- The poor spend a greater proportion of their income on those very goods that are likely to spike in price as climate change worsens: food, energy, transportation.

More generally, low-income people have fewer financial resources to secure adequate property insurance or to ensure their ability to evacuate, rebuild or relocate following disasters.

A historian of American disaster response, Jacob Remes, recently observed: “Disasters are not blind. We have this rhetoric of disasters affecting rich and poor equally and that’s just not true. [In advance of Superstorm Sandy] people who evacuated from Battery Park took a cab – maybe to summer homes, maybe to hotels. People who took crowded city buses from public housing are now sleeping on the floor of a high school gym.”[17]

Similarly, more than 80 percent of applicants for post-Katrina home loans were rejected because they didn’t have incomes high enough or credit ratings good enough to qualify. This suggests the double whammy of passing along the hardship over time – the relative absence of resources not only obstructs near-term recovery, but also removes a foundation on which to build for the future.[18]

There is a cruel irony here. For while economically disadvantaged populations will bear the greatest burdens of climate change, they will have contributed a disproportionately small amount to it – by one measure, for example, an African American adult living in this country is responsible for 20 percent less carbon pollution than the national per capita average.[19]

When our view is broadened to the world outside our borders, the injustice is magnified. The wealthiest 20 percent of the world's citizens are responsible for more than 80 percent of historic greenhouse gas emissions.[20] And yet developing countries experience 94 percent of the world's natural disasters and suffer 97 percent of all deaths related to natural disasters.[21]

And that's only now. As climate change progresses, society will confront even more profound injustice. For example, what are the obligations of other nations to take in populations displaced by sea-level rise or drought or the desertification of farmland? What kind of international legal machinery will be capable of resolving these issues at a scale and pace adequate to the challenge?

These are questions your own program in Refugee and Asylum Law may wish to consider.

More fundamentally, does one generation hold any legal obligation to ensure a habitable planet for its posterity? If so, how can the rights of these people be secured?

So that's the case for Kresge's interest. Climate change is inextricably interwoven with the future of cities. And the climate change story will disproportionately shape the future life conditions of low-income populations.

The question remains whether Kresge, or philanthropy generally, can do anything about either issue.

II. Philanthropy's Role

Private foundations are nonprofit, endowed entities whose corpus was established by individuals or institutions. They distribute a percentage of their assets each year to promote the public good. I want to suggest that philanthropy possesses four defining characteristics that individually, and in the aggregate, position large private national foundations like Kresge, or Rockefeller, or MacArthur, or Hewlett, to engage the climate-change challenge.

Deploying a range of tools

A first defining characteristic of the philanthropic sector is its ability to draw on a wide array of tools. The first is money. The sector controls a lot of money — U.S. foundations gave away almost $50 billion in 2011, according to the Foundation Center.[22] Our coffers pale, though, in comparison to the financial heft of

the public and private sectors – consider that that $50 billion represents less than 6 percent of the amount of money set in motion by the 2009 Recovery Act.[23]

But unlike most money in the public and private sectors, our money is flexible and spent at our discretion. The challenge is accordingly one of selecting leverage points that will spur larger response. Investing in places, and in ways, that create the on-ramp for the re-engagement of private markets. Selecting forms of investments that invite other investors to join the effort. Extending below-market loans, loan guarantees or mission-related equity investments to nonprofits to build their capacity to manage debt.

The second source of philanthropic leverage is nonmonetary. Foundations can convene people as a way of forging relationships, promoting joint inquiry and fostering concerted action. We can pursue strategic communications to strengthen public understanding of, and engagement in, the work of grantees. We can underwrite networks that amplify impact through the unified efforts of nonprofit organizations.

And we can bolster nonprofit capacity – whether to foster innovation, engage citizens more effectively or pursue a policy-reform agenda in particular. Two examples.

The first is the decision some 20 years ago of the Rockefeller Foundation, MacArthur Foundation and Pew Charitable Trusts to create an entity called the Energy Foundation to foster policy change in favor of a clean-energy future.

The Energy Foundation has since broadened its funding base to include an impressive array of endowed foundations and individual donors of wealth.

The Energy Foundation has advanced new energy policies and regulations in countless ways – from working with states to adopt renewable energy standards to creating an office in China that has helped the government develop automobile emissions standards; from tackling the market and regulatory barriers to moving wind power to market, to facilitating the adoption of appliance efficiency standards and improved building codes.

The landscape of new energy technology and policy is exponentially different because of the Energy Foundation's efforts.

A second example of strengthening nonprofit capacity is Kresge's efforts to build afield of practice in the climate-adaptation space.

Climate adaptation is in its infancy as a formal field. We hope to contribute to the emergence of that field by encouraging it to bridge across disciplines, connecting leading thinkers in the fields of metropolitan policy and planning, architecture, civil engineering, natural resource management and law.

Our approach includes providing support for experts who can assist practitioners working locally; using our convening power to bring thought leaders together to learn from one another; connecting those forming national policy with the lessons emerging from local experience; expanding the capacity of urban leaders to bring a different set of skills to the challenge; and using our communications resources to advance concepts critical to climate resilience.[24]

Two years ago, for example, we convened climate-adaptation practitioners from across the country in what was one of the first U.S. networking opportunities in this emergent field. More recently, we helped to shape the agenda of the inaugural National Adaptation Forum, held just last week, and provided scholarship funding for city leaders to attend.

Similarly we are helping to expose an array of practitioners to the new skill sets and mindsets demanded by climate change. Through support to the Urban Sustainability Directors Network, for example, we are helping city leaders confront such challenges as reducing energy use in rental housing, encouraging urban agriculture and preparing for anticipated water shortages in the West.

Viewing things whole

A second characteristic of a large national private philanthropy like Kresge is its profound privilege of seeing things whole, freed from constraints that act as blinders and brakes on the private and public sectors. We don't have to stand for elections, report our quarterly profits to shareholders or navigate tenure review. And because our assets secure our survival, we can cultivate the kind of dispassionate intelligence that permits us to go deeply into an issue over a long period of time, methodically confronting seemingly insurmountable challenges, incrementally making a difference.

A half-century ago, the great urbanist Jane Jacobs wrote in her classic "Death and Life of Great American Cities" that the problem of cities is one of organized complexity. "We may wish for easier, all-purpose

analyses," she wrote, "and for simpler, magical, all-purpose cures, but wishing cannot change these problems into simpler matters than organized complexity, no matter how much we try to evade the realities and to handle them as something different."[25]

The same is true of climate change – a set of multifaceted, interconnected social, economic, ecological and political challenges that defy the rigid, narrow, static approaches that come most naturally to our private, public and nonprofit infrastructure.[26]

Climate change is not like an infection cured with an injection. It is a chronic disease requiring corrective treatment by a team of skilled healers.

If that management were all about deploying financial resources, philanthropy's role would be marginal, at best. But philanthropy has the advantage of looking outside in – bringing to bear an objective distance that permits us to challenge mainstream thinking when the application of that thinking has been less than productive.[27]

Philanthropy can also see and work outside the time pressures that constrain other sectors. In his posthumously published book, "Armageddon in Retrospect," Kurt Vonnegut deadpanned, "There should have been a Secretary of the Future."[28] No sector is better positioned to heed Vonnegut's regret. Philanthropy is unusual in its ability to see beyond the fact that the benefits of work on climate change will be hard to quantify – in many cases hard even to recognize – and that they will be greatest decades and centuries into the future. Far beyond the business cycles and political terms that govern public and private decisions.

The question is whether philanthropy is working this way.

Too often the answer has been no. Philanthropy has often reinforced the notion that climate change is a technical problem requiring primarily technical solutions. The sector has largely failed to use its ability to help others see climate change as a complex problem that requires a change in mindset across all sectors and disciplines.[29]

We at Kresge are sensitive to that criticism. We have accordingly crafted our Environment Program to focus on the concept of resilience. Simply put, resilience is the capacity of a system to absorb and adjust to disturbance while retaining its essential functions, structure and identity.[30]

In terms of cities, this translates into a place's ability to continually adjust to changing economic, ecological and political conditions. This means short-term adjustments (think energy reduction, renewables) together with longer-term adaptation (think disaster planning and preparedness). As one observer has noted, "The hallmarks of resilience are redundancy, adaptation and flexibility, but also the foresight and good judgment to avoid the brawl in the first place."[31]

So we're back to avoiding the unmanageable and managing the unavoidable.

Let me offer two quick examples.

Kresge has helped facilitate the Southeast Florida Regional Climate Change Compact, through which the four economically, culturally and politically diverse counties of Palm Beach, Broward, Miami-Dade and Monroe are developing unified plans to protect water supplies, transportation networks, buildings and other infrastructures from severe climate-related stresses.[32] The threats are no longer hypothetical here. The sea level has risen more than one foot since 1900. The increased sea level, surging tides and more intense storms chew away beaches, taint fresh water sources, overwhelm sewers and swamp homes and commercial structures.

And we're investing in Portland, Ore., and other cities in what are called "ecodistricts." These are areas in which people from the private sector, government, academia, nonprofits and community-based organizations work together to enhance sustainability at the neighborhood level. It is a localized attempt to view the system whole by looking at the interplay between land use, building codes, stormwater management, neighborhood amenities and many other variables.

Taking risks

The third distinctive quality of philanthropy is its ability to take risks – especially financial but also political and reputational. And that is not limited to the modest risk entailed in individual grants, but extends to the larger, dicier bets on innovation and transformation. Philanthropy, if you will, acting as society's social venture capital.

Philanthropy can support scientific and academic inquiry that raises novel questions, pioneers new ways of thinking, generates new institutions and disseminates the kind of knowledge that bears on our deepest problems. Foundations are uniquely suited to encourage the kind of research that can explore the bold and

the profound, the unconventional and the unpopular – that can pay dividends far beyond the life of a grant.

For example, we're supporting the Georgetown Climate Center to help cities design comprehensive approaches to address sea-level rise and the urban heat-island effect. This work will help illuminate the complex interplay among the various systems and policies that influence urban resilience.

A second illustration of philanthropy's risk tolerance is its willingness to invest in models that showcase on-the-ground, cutting-edge resilience efforts. Kresge is, for example, helping New York City reduce greenhouse gas emissions from its building sector. Just 2 percent of New York City's buildings are responsible for half of that city's building sector's energy use.[33] We've supported the Bloomberg administration's efforts to publicly disclose large buildings' energy performance, enabling prospective purchasers or tenants to factor energy performance into their decision to buy or rent. Our hypothesis is that such a system will, in turn, stimulate the market for energy retrofits and improve operations. We are deploying these and other ideas to a cadre of other cities, which will become national leaders in the efficiency of their building stock.

Working on behalf of marginalized people

The fourth quality of philanthropy is its ability to lend our power to the powerless and our voice to the voiceless.

Philanthropy is consummately broad. There is not a nook or cranny of social activity it doesn't reach. There is, however, a piece of the philanthropic ecology that has had disproportionate import to society's view of foundations and to philanthropy's view of itself. That is the commitment to helping those in need by supporting organizations that serve as our society's moral thermostats – organizations that activate in the presence of suffering, injustice or callous behavior.[34]

This corner of the ecosystem is so terribly important because these organizations – and the people they serve – have so very few resources to help them. This has always been the case, of course, but it is getting worse. And yet, philanthropy has largely failed to elevate the voices and interests of low-income Americans in the climate arena.

Historically, urban, regional and hazard mitigation planning efforts have not been particularly effective in obtaining the perspectives of low-income residents in the design of resilience measures. Nor in ensuring that

they benefit from the implementation of those measures.

As a result, the unique knowledge and needs of low-income populations too often have been overlooked in both community-development and disaster-preparedness efforts. Climate resilience practitioners must become more intentional about and skillful at reaching low-income residents.

This is a long and slow build. Kresge is planning a series of gatherings at which social justice leaders who are active on climate and environmental issues come together and consider what an equitable climate-resilience framework should include. The field of climate resilience must be constructed in such a way that the resulting leadership is diverse in terms of race, class, ethnicity and gender.

Philanthropy can also draw low-income communities fully into the preparation necessary to withstand the pressures and shocks of climate change, in the process building stronger community cohesion. The evidence is clear that social capital – the informal networks of support that bind a community – contributes in times of disturbance to more effective dissemination of information, improved mutual support and fewer fatalities.[35]

One researcher, for example, describes a curious disparity in the effects of the Chicago heat wave of 1995, which killed more than 700 people:

"Though Latinos were nearly a quarter of Chicago's population, they represented only 2 percent of the deaths. … African Americans in one poor neighborhood were 10 times as likely to die as Latinos in the equally impoverished adjoining neighborhood. … [T]he difference was in the quality of the neighborhoods themselves."[36]

A similar disparity of hardship has been felt in countless other extreme-weather events. It's important to note, moreover, that the conversation can't always be framed as a response to disasters. We must instead remind ourselves of the chronic illness metaphor – a wide-ranging, ever-growing change that is no less destabilizing than an acute event.

To that end, it turns out that the kind of healthy, vital, economically stable communities all of Kresge's other programs are trying to foster – in health, human services, community development, education, arts – are the same kinds of communities that are most resilient in the face of climate change. The recognition of this overarching commonality has led us increasingly to explore investments that touch multiple programs.

When, for example, we travel to New Orleans to examine coastal restoration efforts, we also visit community development organizations seeking to include neighborhood residents in planning for the future of the Ninth Ward, and community health workers trying to ensure the provision of safe and healthy housing, and human services organizations trying to improve the supports families need to get back on their feet in the aftermath of crisis, and arts organizations seeking to use cultural activities as a way of contributing to the revitalization of neighborhoods.

Increasingly, each of the disciplines in which we work will see the relevance of the Climate Question to their work.

III. What This Means for You

As philanthropy, and Kresge specifically, embraces these four qualities of working – viewing things whole, using multiple tools, taking risk and improving low-income opportunity – it has to come to terms with the reality that climate change changes everything. That reality forces us to acknowledge that our ability to expand opportunities in American cities hinges on our answers to the Climate Question. For us not to would undermine all of our work and ambitions.

But – and you were kind to sit this long before I got to this question – what does this mean for you?
At the meta-level, it means three things.

First, we all have an obligation to proceed in our personal and professional lives armed with an awareness of the nature and severity of the climate challenge – and the disproportionate impact it will have on the most vulnerable among us. This means making the link between the science of climate change and its very real lived consequences. Simply, we all need to ask the climate question.

Second, at the local, regional, state and federal levels, and in all sectors, we need a new cadre of professionals with fresh skill sets who understand the multiple dimensions of climate change – particularly as they relate to our social and economic fabric – and to teach the broader community habits of adaptive management.

Third, and far more challenging, is the need for an evolution in the mindset of current professionals of all stripes. In effect, most jobs will become climate jobs over the coming years, whether or not people describe them, or even conceive of them, that way.

Let me offer up some examples of how these considerations hit the ground.

1. The law

First, in law.

I earlier described climate change as a social justice issue, and that has clear implications for the practice of law – particularly for those among you who plan to dedicate your career, or a portion of it, to nonprofit service.

As you know, many are already noting the impact of climate change on the theory and practice of law. Michael Gerrard, a professor at Columbia Law School and director of its Center for Climate Change, recently raised the following questions in his book, "Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate:"

- "If a nation is underwater, is it still a state?
- What obligations do other nations have to take in the displaced populations, and what are these peoples' rights and legal status once they arrive?
- Do these nations and their citizens have any legal recourse for compensation? Are there any courts that will hear their claims, and based on what theories?"[37]

These are not theoretical questions, and such legal issues of displacement and dispossession are not isolated to island nations – they will increasingly play out in our own cities and communities. Moreover, institutions ranging from the U.N. Human Rights Council to the Center for International Environmental Law are actively making the case that climate change implicates a range of international agreements and legal instruments.

Some academic research centers have begun grappling with these questions in a serious way – ranging from Columbia University's Center for Climate Change Law to the Climate Center at Georgetown Law School.[38]

One particularly creative example is the Climate Legacy Initiative, a joint project of the Vermont Law School and the University of Iowa Center for Human Rights that is wrestling with the question of intergenerational rights and harms resulting from climate change.

2. Business

Those of you going into business or corporate law can look forward to an avalanche of writing and commentary about the private sector's roles and responsibilities in climate change.

This has moved far beyond the basic issue of what it means to be a responsible corporate environmental actor. Savvy business leaders and boards have shifted the discussion from good citizenship and legal compliance to basic survival: stated most bluntly, climate change poses challenges for whole sectors of our economy.

For example, there is an emerging community of private-sector practice around climate-change adaptation, with businesses and consultancies asking questions like, "What will climate change mean for supply-chain vulnerabilities?" And, "How can business leaders best hedge against major population shifts and increasing numbers of environmental disasters?" Institutional investors and groups like Ceres are urging the insurance industry to take on these questions because in many cases its entire business model depends on it.[39]

In that sense, the fundamental challenge for the private sector is not all that different from the one we in the philanthropic sector face. In both fields, leaders who hope to succeed are asking: "What are the market failures that keep us from making progress on climate resilience, and how can we address them? And what opportunities do those market failures create for smart entrepreneurial activity?"

A few years back, a few of our nonprofit peers partnered with McKinsey & Co. – an international consultancy with a thriving private-sector climate-change practice – to publish a greenhouse gas abatement cost curve.[40] The curve plots the cheapest and most expensive ways of mitigating climate change relative to their return.

It was an obvious idea in retrospect, but also one that shook up both the private and nonprofit sectors. It demonstrated the smart business opportunity around identifying which climate-mitigation activities – from improving the efficiency of electronics and appliances to retooling coal-fired power plants to run on natural gas – provide the biggest carbon bang for our buck.

Similar analyses are required to create an understanding of the most effective and efficient climate-change adaptation approaches in different types of regions and cities.

In all of this, however, we must remember the maxim that an ounce of prevention is worth a pound of cure – or, as the Stern Review on the Economics of Climate Change found in 2006, that adaptation will prove far more costly in economic and human terms than reducing the harm in the first place.[41]

3. Architects, engineers and urban planners

For architects, engineers and urban planners, climate change completely alters the professional equation. Every act of planning, design and construction has the potential to improve, or degrade, the life opportunities for residents of America's cities. Every act affects the Climate Question. Let me suggest that there is no better example than what is happening, and what will happen, in Detroit.

Over the last two years, Kresge has funded and helped birth something called Detroit Future City.[42] It is in equal parts a vision document, a decision-making framework and an investment blueprint. The plan pivots on land use – on how to re-imagine the city's physical reconfiguration. It is a guide to how we can concentrate investments in the city's nodes of strength – Woodward Avenue; downtown; along the river; in stable, well-maintained neighborhoods – and repurpose underutilized land in ways that move parcels from the liability side of the ledger to the asset side. That's a complex undertaking, riddled with layer upon layer of difficult choices.

The plan was developed by eight teams, drawn from throughout the world, of architects, economists, planners, engineers, community development specialists – as well as residents. It received input from some 150,000 Detroit residents in arguably the most sophisticated community engagement process that has been used anywhere in America.

The *Detroit Free Press* wrote: "The long-awaited strategic framework is more than a plan for stanching the city's infrastructural bleeding – it's a blueprint for how a decaying city can reinvent itself. It's not a patch; it's a revolution."[43]

Part of that revolution is a fundamental reconceptualization of what the future postindustrial city looks like and how it will function, providing answers to such questions as:

- How will the economy be grown?
- What types of land use will be conducive to what kinds of activities, from reforestation to urban farming, from industrial redevelopment to new open spaces?

- How will we reform the delivery of city systems such as water, waste, energy and transportation to make them more affordable, efficient and sustainable?
- What components need to be present in neighborhoods to make them attractive to a wide variety of people?
- What steps will we take to transform vacant and abandoned properties into blue and green infrastructure?
- And, of course, how should the Climate Question be integrated into all of the above?

I'm convinced that this framework holds the potential to be an unprecedented, path-breaking and visionary tool, one that implicates and advances the next generation of environmental resilience, urban innovation and social justice.

We are assembling a broad-based civic consortium to serve as the governance authority. We are building out a project management office of more than a dozen people at the Detroit Economic Growth Corp., which sits outside the control of city government. And we are gathering financial capital for the plan's implementation, with Kresge taking the lead by pledging that our projected $150 million in expenditures in the next five years in Detroit will align with the plan.

I go into all of this, because I believe the city of Detroit is one place that any planner, architect or engineer trained in this state should pay attention to, even become engaged in. Creative energy in this city is strong, and our moderate temperatures and access to fresh water lend this region a great deal of natural resilience that will serve it well as climate change progresses. I hope you'll stay tuned.

Conclusion

One of the great 20th century advocates for social justice observed: "We are now faced with the fact that tomorrow is today. We are confronted with the fierce urgency of now. In this unfolding conundrum of life and history there is such a thing as being too late. ... If we do not act we shall surely be dragged down the long dark and shameful corridors of time reserved for those who possess power without compassion, might without morality and strength without sight. Now let us begin."

Martin Luther King was not describing the challenge of climate change when he spoke those words. But he could have been. Ultimately and surely, if you care about the future of cities, the bedrock conditions within them and the opportunities they offer their most vulnerable members, you must care a great deal about

climate change.

Nothing poses a graver threat to our ambitions – as funders, but also as individuals, as parents and as posterity to the generations yet to come.

Philanthropy's responsibility is greater than just to act in accordance with our best predictions of the future. Our responsibility, and our great privilege, is to help shape the future in a way that truly "promotes the well-being of humankind," as Sebastian Kresge desired. Thankfully, the philanthropic sector is not the only one with a particular role to play, and this charge to shape the future is not ours alone.

We call on friends and colleagues, and all of you who have been so generous to share your time this afternoon, to begin to ask the Climate Question, to wrestle with its implications and to let honest answers guide your actions.

I, for one, am thankful that all of you will be helping to answer the profound and unprecedented questions that climate change has introduced. We need your innovation and your enthusiasm, your intelligence and your vision, your passion and your compassion, to respond to the fierce urgency of now. Let's get to work.

Footnotes

[1] Former dean of the School of Natural Resources and Environment and current professor and World Bank Fellow. See Bierbaum, R.; Holdren, J.; MacCracken, M.; et al., Eds. *Confronting Climate Change: Avoiding the Unmanageable and Managing the Unavoidable* (February 2007).

[2] He offered the explanation to Bill Moyers on his program *Moyers & Company* (January 4, 2013). See "Anthony Leiserowitz on Making People Care About Climate Change," at the *Moyers & Company* website.

[3] See, e.g., Lynas, M. *Six Degrees: Our Future On a Hotter Planet* (National Geographic: 2007). Also, "Six Degrees Could Change the World: Degree Five" and "Degree Six," at the National Geographic website.

[4] "The lifetime of fossil fuel CO2 in the atmosphere is a few centuries, plus 25 percent that lasts essentially forever," according to oceanographer David Archer. "The climatic impacts of releasing fossil fuel CO2 to the atmosphere will last longer than Stonehenge. Longer than time capsules, longer than nuclear waste, far longer than the age of human civilization so far." See "Carbon is Forever," at the Nature Reports website.

[5] Similarly, Fatih Birol, the chief economist of the International Energy Agency, recently said: "I am very worried — if we don't change direction now on how we use energy, we will end up beyond what scientists tell us is the minimum (for safety). The door will be closed forever." See "World Headed for Irreversible Climate Change in Five Years, IEA Warns," at *The Guardian* website.

[6] Robinson, A.; Calov, R.; & Ganopolski, A. "Multistability and Critical Thresholds of the Greenland Ice Sheet," *Nature Climate Change*, 2: 429-432 (2012). "If you're the mayor of Hamburg, or Shanghai, or Philadelphia, I think it's in your job description that you think forward a century," says glaciologist Jason Box. "They're completely inundated by the year 2200." See "Why Greenland's Melting Could Be the Biggest Climate Disaster of All," at the Climate Desk website.

[7] An article published in the *Proceedings of the National Academy of Sciences* in March 2013 found that a 2-degree Celsius rise by 2050 would trigger a tenfold increase in the frequency of storm surges. According to lead researcher Aslak Grinsted, "This means that there will be a Katrina-magnitude storm surge every other year." See "The USA Could See a Storm Like Hurricane Katrina Every Two Years," online at USA Today.

[8] "A recent survey of some 1,100 animal and plant species found that climate change could wipe out between 15 and 37 percent of them by 2050. Yet the actual losses may be greater because of the complexity of natural systems. The extinction of key species could have cascading effects throughout the food web." See "The Sixth Great Extinction: A Status Report," on the Earth Policy Institute's website.

[9] O'Neill, M.; Kinney, P.L.; & Cohen, A.J. "Environmental Equity in Air Quality Management: Local and International Implications for Air Quality and Climate Change," *Journal of Toxicology and Environmental Health* (2008).

[10] We all know that correlation is not the same as causation, and that urban crime is a function of many complex and interrelated factors. Nevertheless, the data are not reassuring. The homicide rate in Detroit, Philadelphia and Chicago rose during the mild winter of 2012. William Bratton, who has served as police chief in Los Angeles and police commissioner in Boston and New York, said: "The most brutal part of Chicago's winter," where homicides were up 60 percent from the previous year, "was that it barely came. … Violence that typically comes with the heat of the summer got an early start." In a 2001 paper published by the American Psychological Society, Craig Anderson used historical data to extrapolate that a 2-degree-Celsius rise in temperature would cause an additional 40,000 murders and assaults in the U.S. each year. Anderson, C. "Heat and Violence," *Current Directions in Psychological Science*, 33-38 (2001).

[11] See "The Word – Sink or Swim," on the show's website.

[12] Lowe, A.; Foster, J.; & Winkelman, S. "Ask the Climate Question: Adapting to Climate Change Impacts in Urban Regions," (June 2009). A report by the Center for Clean Air Policy Urban Leaders Adaptation Initiative.

[13] One article noted that in severe climate events, "The poor are more likely to die, suffer from injuries, have proportionately higher material losses, have more psychological trauma and face more obstacles during the phases of response, recovery and reconstruction." Masozera, M., Bailey, M., & Kerchner, C. "Distribution of Impacts of Natural Disasters Across Income Groups: A Case Study of New Orleans,"

Ecological Economics 63, pp. 299-306 (2007). The authors note: "Although the highest magnitude of economic damage is often born by wealthier populations, due to possessions of higher value, the relative impact is generally greater for low-income groups. For people who cannot afford the costs of repair, reconstruction or relocation, it may take years to recover from the aftermath of disasters. In addition, the effects of a disaster may persist to the next generation because of a lack of resources to recover." *Id.*

[14] World Health Organization. "Older People in Emergencies: Considerations for Action and Policy Development," (2008).

[15] Morello-Frosch, R.; Pastor, M. Sadd, J.; et al. "The Climate Gap: Inequalities in How Climate Change Hurts Americans and How to Close the Gap," (2009).

[16] U.S. Environmental Protection Agency. "Children's Environmental Health Disparities: Black and African American Children and Asthma."

[17] Interview with Remes in Edelson, J., "Disaster Capitalism Doesn't Work," *Salon.com* (November 2, 2012). *See also* Remes, J., *Disaster Citizenship: Urban Disasters and the Formation of the North American Progressive State* (forthcoming from the University of Illinois Press).

[18] Masozera et al., op cit.

[19] Congressional Black Caucus Foundation. "African Americans and Climate Change: An Unequal Burden," (2004).

[20] Roberts, J. T., & Parks, B. *A Climate of Injustice: Global Inequality, North-South Politics and Climate Policy,* (MIT: 2007), p. 10.

[21] Mathur, A.; Burton, I.; & Van Aalst, M., Eds. "An Adaptation Mosaic: A Sample of the Emerging World Bank Work in Climate Change Adaptation," (2004).

[22] See the "Foundations Today" tutorial at the Foundation Center website.

[23] Congressional Budget Office. "Estimated Impact of the American Recovery and Reinvestment Act on Employment and Economic Output from October 2011 Through December 2011," (2012).

[24] Working in a "post climate change" mindset requires a different set of skills on the part of urban leaders, an ability to understand the interdependencies among systems and to apply adaptive management skills. We're supporting training sessions provided by organizations such as the Institute for Sustainable Communities and EcoAdapt and knowledge-sharing websites such as the Climate Adaptation Knowledge Exchange. We've also provided early funding to the emerging American Society of Adaptation Professionals, whose members will be certified for their familiarity with both climate risks and adaptation planning. We are currently conducting outreach to leaders in a variety of disciplines that should be "asking the climate question" – transportation planners, water utility managers, urban planners, real estate developers and others – to better understand how they currently view the relevance of climate change to their work and what would help them be better prepared to address it. Later this year, we'll publish a paper

that shares what we learned from that process.

[25] Jacobs, J. *The Death and Life of American Cities* (Random House: 1961).

[26] Timon McPhearson of The New School noted in a recent article concerning the impacts of Superstorm Sandy, "All social-ecological systems are marked by interconnections. … Systems thinking is crucial … because no problem exists in isolation, all are part of a larger system of interacting networks; social networks, biogeophysical networks, political networks and economic networks. Interestingly, it turns out that you can't understand the behavior of a system by studying its parts; you need to study the whole thing." McPhearson, T., "Wicked Problems, Social-ecological Systems, and the Utility of Systems Thinking," online at The Nature of Cities: A Collective Blog on Cities as Ecological Spaces (January 20, 2013).

[27] See generally Ehrenhalt, A. *The Lost City: The Forgotten Virtues of Community in America* (Basic Books: 1996), describing Jane Jacobs' ability to stand outside the traditional realms of planning and urban policy.

[28] Vonnegut, K. *Armageddon in Retrospect: And Other New and Unpublished Writings on War and Peace* (Berkley Books: 2008).

[29] In her 2013 report "Naming the Problem: What It Will Take to Counter Extremism and Engage Americans in the Fight Against Global Warming," funded by the Rockefeller Family Fund, Theda Skopol discussed the failure of environmental organizations to secure national climate legislation during President Obama's first term. Professor of government and sociology at Harvard and director of the Scholars Strategy Network, Skopol concluded that "Global-warming reformers must stop being blind and tone-deaf to the real-life circumstances of typical American families in an era of astonishing socioeconomic inequality." Passing national climate legislation, she says, will require "policies that ordinary Americans can understand, policies that deliver concrete benefits to ordinary families [and] the construction of far-reaching networks of allied organizations able to push Congress." See "Learning from the cap-and-trade debate," online at Grist.

[30] See Hilling, C.S., Ed. *Adaptive Environmental Assessment and Management* (John Wiley & Sons: 1978).

[31] David Orr, professor and special adviser to the president, Oberlin College.

[32] "A Region Responds to a Changing Climate: Southeast Florida Regional Climate Change Compact Counties Regional Climate Action Plan," (October 2012).

[33] See "Mayor Bloomberg Releases First Benchmarking Report on Energy Use in New York City's Largest Buildings," on the city's government website.

[34] The metaphor is that of Paul Ylvisaker. Ylvisaker, P. "'The Spirit of Philanthropy,'" Address to the 38th Annual Conference of the Council on Foundations," Atlanta, March 1987, reprinted in Virginia M. Esposito, Ed., *Conscience & Community: The Legacy of Paul Ylvisaker* 346 (Peter Lang: 1999).

[35] See, e.g., Berkes, F., & Ross, H. "Community Resilience: Toward an Integrated Approach," *Society & Natural Resources: An International Journal*, Vol. 26, Issue 1 (2013).

[36] Solnit, R., *A Paradise Built in Hell: The Extraordinary Communities that Arise in Disaster* (Penguin Books: 2010).

[37] Gerrard, M., and Wannier, G., Eds. *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge University Press: 2013).

[38] Columbia's Center recently hosted a conference on the legal implications of managed retreat from coastal areas. Held in the shadow of Superstorm Sandy, it asked questions such as "What governmental actions in restricting development or reconstruction in vulnerable areas are 'takings' that require compensation? How would the government adopt a policy of managed retreat from the coastlines – through changes in zoning and building codes, restrictions on infrastructure or other methods? What process would be needed? What is the role of federal flood insurance and private insurance in shaping patterns of development or redevelopment in vulnerable areas? Where has managed retreat been attempted in the past? What is the experience with these attempts, and what procedures were followed?"

[39] See, e.g., "Insuring Our Future Climate," on the Ceres website.

[40] McKinsey & Co. "Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?" (2007).

[41] Stern, N. "Stern Review: The Economics of Climate Change," (2006).

[42] See the Detroit Future City Framework, online.

[43] *Detroit Free Press*. "Editorial: Detroit Works Offers a Blueprint for Taking Charge of Shrinking City," (January 8, 2013).