



## 3 Strategies for Building Equitable and Resilient Communities

By Danielle Baussan and Cathleen Kelly | October 17, 2016

This year, communities across the country have been hit by an onslaught of extreme weather events and other climate change effects—from heavy rains and deadly floods in Louisiana to a costly multiyear drought in California, damaging wildfires in central and Western states, and sunny-day floods at high tide in Florida and Virginia exacerbated by accelerating sea level rise. Through his 2013 Climate Action Plan,<sup>1</sup> President Barack Obama has committed to mitigating the sources of climate pollution that exacerbate extreme weather and has worked to improve the resilience of areas that are already at risk for catastrophic climate damage. The Climate Action Plan and its associated actions include several regulations to curb greenhouse gas emissions, including the Clean Power Plan;<sup>2</sup> upgraded fuel efficiency standards;<sup>3</sup> and a proposed flood risk management standard for federally supported infrastructure,<sup>4</sup> among others. These actions are increasingly necessary as higher sea levels, extreme hot and cold temperatures and intense storms disrupt many Americans' health, quality of life, and economic opportunity.

For all of its achievements, the Climate Action Plan is a starting point, not a finish line. The government's current efforts may not meet the U.S. international climate pledge of reducing greenhouse gases 26 percent to 28 percent from 2005 levels.<sup>5</sup> A new administration should meet and exceed this goal by developing programs that not only promote climate resilience to help communities withstand these increasingly common and dangerous weather events but also ensure climate equity. In this way, all communities, including low-income communities and communities of color, will be equally prepared to withstand climate-charged events and the resulting economic aftershock.

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### The costs of extreme weather

Extreme weather does not discriminate, but decades of discriminatory policy and practices have resulted in disproportionate burdens of extreme weather on low-income communities and communities of color.<sup>6</sup> Environmental hazards—whether from power plants, toxic waste, or landfill sites—are often built alongside low-income neighborhoods and communities of color. This creates additional risks for such communities

during and after extreme storms and flooding.<sup>7</sup> After an extreme weather event, financial insecurity in the form of lost wages and other financial hardships can push already struggling families into poverty.<sup>8</sup> The largest job losses after extreme weather events are often in service-related industries,<sup>9</sup> which have median hourly wages between \$9 and \$15.<sup>10</sup> After Hurricane Sandy, for example, the New York City metropolitan area lost 32,000 jobs two weeks after the superstorm.<sup>11</sup> Including climate equity as a key component in climate resilience efforts can offset these added risks and help people move beyond surviving an extreme weather event to thrive afterward.

The costs of extreme weather do not just affect households struggling to recover; all taxpayers, and the federal government, are paying for this new normal. Between 2005 and 2015, the Federal Emergency Management Agency, or FEMA, issued more than \$67 billion in grants to assist communities and individuals devastated by extreme weather and wildfires, which amounted to approximately \$200 per U.S. resident for disaster assistance during that time period.<sup>12</sup> Investing in climate resilience, particularly in communities that are most vulnerable to more extreme weather and other climate change effects, can help reduce the devastation wrought by disasters, scale back government funding for disaster relief, and free resources to help communities strengthen their climate resilience. It is estimated that every \$1 spent on resilience efforts yields \$4 in economic benefits, not including the thousands of prevented injuries and hundreds of saved lives.<sup>13</sup>

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### Strategies a new administration should employ to increase communities' resilience and climate equity

When a new administration begins in 2017, it should leverage the gains of President Obama's administration by pursuing three key strategies to build resilience and improve climate equity in communities across the United States. These strategies should be designed to support collaboration among federal, state, local, tribal, and nongovernmental partners:

- Improve access to low-carbon and resilient energy for all communities
- Enhance hard, soft, and natural infrastructure
- Embed principles of equitable, just climate resilience into all levels of federal decision-making

These strategies, detailed below, should guide a new administration as it designs and implements policies and actions to help all communities become equally resilient to extreme weather and climate change effects and have equal opportunities to prosper.

## Improve access to low-carbon and resilient energy for all communities

Renewable energy is a critical part of the U.S. climate and energy future because it reduces the need for fossil fuel-powered, polluting energy plants while developing jobs that contribute to the middle-class economy. Yet as renewable power's—particularly solar power's—falling prices<sup>14</sup> have added value to the economy, improved health, and spurred a new future of power production, it is far more likely for upper- and middle-income households to take advantage of renewable energy's benefits.<sup>15</sup> There are various reasons for the slower adoption rate of solar power in lower-income households, including roof conditions that are untenable for solar panels, difficulties securing financing for solar installation, and rental housing that prohibits tenants from such installations.<sup>16</sup> Without policies to expand solar energy adoption to all communities, lower-income areas and communities of color could be part of a so-called electrical divide<sup>17</sup>—that is, relegated to being the primary purchasers of aging, more expensive, fossil fuel-based energy. Being shut out of renewable energy expansion in the United States can thus exacerbate the pollution and health problems already hurting low-income residents and communities of color.

President Obama's Climate Action Plan set a goal to install 100 megawatts of renewable energy in federally assisted affordable housing by 2020. The Obama administration then exceeded that goal in July 2016 through its Clean Energy Savings for All Initiative that directs six federal agencies to expand or create new programs to reduce solar energy costs for low-income and rural households. The initiative was designed to reach a goal of 1 gigawatt of solar energy to low- and moderate-income families by 2020—10 times more than the original goal.<sup>18</sup>

A new administration should continue to support a renewable energy future for people at every income level. In addition to ensuring that existing renewable energy initiatives are carried out, the next administration should incentivize utilities that serve urban areas to increase solar energy adoption. American cities are growing, particularly along coastlines, areas that are at high risk of extreme weather and sea level rise.<sup>19</sup> Utility-scale solar that serves urban areas can alleviate the problems that low- and middle-income households may face in adopting rooftop solar energy—such as rental housing, apartment building restrictions, or rooftops that are either poorly maintained or not optimized to accommodate solar panels. Increased adoption of renewable energy can mitigate the impacts of climate change, which make these cities more vulnerable to extreme weather in the first place.

Federal efforts to define and subsidize solar-backed microgrids—separate power systems that can operate apart from the main electric system—can improve climate resilience. For example, after Hurricane Sandy, areas with microgrids were able to withstand or reopen after the storm faster than those connected entirely to the grid.<sup>20</sup> Yet microgrid policy is a patchwork of state definitions, and the lack of federal standards

or guidance inhibits national policy or funding for more microgrids. Offering federal guidance to define microgrids and increased financial support for renewable microgrid development in low-income areas and communities of color can improve the resilience of low- and middle-income areas during and after extreme weather events.

Finally, to reduce the electrical divide, the next administration should further study solar employment statistics. While solar jobs are often touted as offering a middle-income salary,<sup>21</sup> labor experts have noted that the data do not sufficiently reflect the number of solar installers and do not “fully capture the low end of the pay spectrum due to the prevalence of cash pay, misclassification of workers as independent contractors, and other characteristics of the underground economy.”<sup>22</sup> The next president should direct the Bureau of Labor Statistics to further examine whether solar jobs are providing living wages and—if they are not—develop policy to promote a renewable energy job market that can help people become both financially secure and climate resilient.

### Improve hard, soft, and natural infrastructure

Extreme weather threatens America’s already imperiled hard, or built, infrastructure network of roads, railways, bridges, and ports that underpins the American economy.<sup>23</sup> For example, Hurricane Sandy caused almost \$5 billion in damage to New York City’s Metropolitan Transit Authority.<sup>24</sup> To ensure that communities are equitably equipped to withstand extreme weather events, the next administration should implement policies that strengthen and build infrastructure to endure the effects of current and projected weather events and lessen the need for emergency funding for rebuilding and repair.

Soft infrastructure is an overlooked yet cost-effective and equally important tool for communities to withstand extreme weather events. Soft infrastructure refers to social cohesion,<sup>25</sup> or community cohesiveness and networks that help individuals and areas survive and bounce back from extreme weather events. After Hurricane Sandy, for example, community organizations served as first responders, organized community buyout plans and postdisaster planning efforts, and were trusted liaisons to share government directives and information with their local constituencies.<sup>26</sup>

In addition, natural or nature-based infrastructure—that is, forests, coastal wetlands, reefs, dunes, and other natural areas—provide substantial resilience benefits to society. These benefits include reduced flood risks and buffering coastal areas against storm surge, wind, and wave damage.<sup>27</sup> What’s more, these assets provide a host of co-benefits to their surrounding communities and society as whole, including filtration of pollutants, habitat for wildlife and commercially valuable fish species, and a resource base for coastal recreation and tourism, which is the single largest employer among ocean-dependent industries.<sup>28</sup> Growing evidence demonstrates the greater cost-effectiveness

of natural and nature-based resilience infrastructure over traditional, single-purpose measures such as seawalls and levees. However, state and federal engineers and coastal planners face gaps in basic knowledge on the performance of natural systems under different storm conditions and in different geographic areas, which hinder their willingness to rely on natural infrastructure instead of traditional steel and concrete structures.<sup>29</sup>

The next administration should continue to support investments in natural infrastructure and coastal ecosystem restoration for the purpose of enhancing resilience. It should also support and expand research aimed at filling knowledge gaps that prevent wider reliance on ecosystems and nature-based features in flood control, including the performance parameters of different ecosystem types and innovative hybrid systems that integrate natural features into traditional flood control measures. The next administration should also continue socioeconomic research to quantify the co-benefits of nature-based features, to improve cost-benefit analyses of flood control projects, and to better illuminate the trade-offs of different resilience project options.

The Obama administration has announced several initiatives to improve U.S. hard infrastructure, including aligning agency construction requirements with most recent model building codes.<sup>30</sup> It has also directed agencies to integrate the benefits of natural infrastructure in agency decision-making<sup>31</sup> and issued the first Quadrennial Energy Review to examine how to modernize energy infrastructure for economic, energy, and environmental responsibility.<sup>32</sup> Additionally, the President's Advisory Council of Faith-Based and Neighborhood Partnerships outlined recommendations for the administration to work with and support faith leaders' work on energy efficiency, environmental education, and other important initiatives.<sup>33</sup>

The next administration will have opportunities to upgrade energy infrastructure through improved energy efficiency upgrades; shape state utility infrastructure decision-making; and create incentives for renewable energy transmission infrastructure.<sup>34</sup> There are also opportunities to strengthen transportation infrastructure by working with Congress to revise drinking water laws to ensure public safety; broadening the scope of success for transit projects to reflect how they affect an increasingly urban society, a changing climate, and the economy writ large; updating information about levees and funding repair and improvements to prevent flooding; and ensuring that the U.S. port system meets environmental standards and connectivity needs.<sup>35</sup>

The next administration should also strengthen soft infrastructure in U.S. communities. To help states and cities recover from extreme weather events equitably, a new administration should consider how to reform the Stafford Disaster Relief and Emergency Assistance Act,<sup>36</sup> which supports preparation for and response to disasters and supplies housing and funding streams needed to expedite recovery for all communities. This consideration should be made through a task force of mayors, governors, leading recovery organizations, and grassroots organizations that have experienced the financial, physi-

cal, and human impact of extreme weather events. Additionally, the next administration should invest in transportation options to help all communities have equal access to jobs, education, and housing, as well as to help low-income communities safely exit an extreme weather event. Low-income community members are less likely to have automobiles and may live in areas that are not serviced by a flexible array of public transit options.<sup>37</sup> Furthermore, new development oriented toward public transit is costly and can push out low-income residents.<sup>38</sup> After an extreme weather event, improving both hard and soft infrastructure can enable residents to return home to retain the social and employment ties to help them recover.

Supporting the soft infrastructure of a community network should be a goal for the next president, as well as mayors and governors across the country. However, as sea level rise and flooding threaten to wash away the land of entire communities, a new administration will need to help communities determine whether and how they should move out of harm's way. The next administration could start by expanding support for voluntary coastal and riparian buyouts or supporting the relocation of whole communities. Voluntary buyout programs, where homeowners are compensated by the government to move from a natural hazard site, have existed for decades<sup>39</sup> but may become more prevalent as extreme weather and climate change create an unsustainable pattern of rebuilding coastal and riparian areas. The next administration should collect and promote best practices from areas that have conducted voluntary buyouts. When government agencies such as the U.S. Army Corps of Engineers participate in voluntary buyout programs, they should initiate community involvement from the beginning. Furthermore, the federal government should promote buyout practices that encourage communities to remain as whole—and as near to their former location—as possible to sustain the social networks, employment, and other benefits of social cohesion.

The Obama administration is in the initial stages of helping entire communities relocate. In January 2016, it announced \$48 million in federal funding to relocate Isle de Jean Charles, Louisiana, to an area as yet undetermined, to help residents overcome the mounting impacts of climate change.<sup>40</sup> This relocation process will continue into the next administration, serving as a blueprint for other communities whose land climate change threatens. Alaskan communities such as Shishmaref and Newtok have already begun a voluntary, communitywide relocation effort.<sup>41</sup> In the future, coastal areas around Miami, Florida, may have to consider relocating given the threat of projected sea level rise on their land mass.<sup>42</sup> The next administration should develop relocation guidelines that help newly moved communities thrive, or risk moving residents who lack financial resources into new areas that do not offer opportunities to thrive socially or economically.



## Embed principals of fairness, justice, and climate resilience into all levels of federal decision-making

Most federal agencies play some role in helping communities respond to the consequences of climate change, from flooded housing and infrastructure to agricultural losses caused by drought to extreme weather effects on business supply chains and workforce retention. Yet decisions made within the federal government can carry a history of institutional bias that includes overlooking the input of low-income populations, communities of color, and native communities. There are two ways in which a new administration should direct agencies to ensure that their climate resilience policies and initiatives avoid historic biases and are just and equitable.

First, a new administration should mainstream climate justice and equitable resilience strategies into federal agency adaptation planning, policies, programs, and partnerships. Doing so would allow the next administration to fully leverage agency expertise and resources to support climate preparedness and resilience in low-income communities and communities of color. President Obama's November 2014 Executive Order 13653, "Preparing the United States for the Impacts of Climate Change,"<sup>43</sup> acknowledges the high vulnerability of low-income families to the effects of climate change. Nonetheless, the executive order does not specifically direct agencies to take action to reduce climate change risks in low-income areas and communities of color. A new administration should ensure that agencies recognize and reverse disproportionate climate change risks in low-income communities and communities of color.

Second, a new administration should support resilience and social justice leadership. Groundbreaking ideas from across the country often come from people working within communities, and these ideas can do even more good when leaders adopt them in other areas. With these idea sharing tactics in mind, the White House created the Champions of Change for Climate Equity and Climate Action initiative to amplify best practices across a wide range of issues, including recognizing leaders who have helped build community climate resilience.<sup>44</sup> The federal government should continue to recognize and amplify the success of local leaders, including those working with low-income communities to reduce climate risks, support social justice, and promote inclusive economic development. Pathways for funding and improved communication between on-the-ground experts and government agencies can result in more thoughtful and effective actions to fight climate change.

These above actions would help protect public health and safety, lower federal disaster response costs, undo the pervasive damage of historic inequities, and promote resilience in the communities that are most vulnerable to the myriad impacts of climate change.

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## Other actions

In addition to the strategies described above, the next administration should help current regulatory resilience efforts cross the finish line. While a new administration should forge its own path toward equitable climate resilience, three current initiatives will likely need support in 2017.

On January 31, 2015, President Obama issued a new executive order<sup>45</sup> to establish the Federal Flood Risk Management Standard. The new standard requires federally funded projects to be elevated to reflect the latest science and flood plain risks. While the rule is still pending, the next administration should encourage agencies to quickly create their own implementation rules to ensure that federal dollars support infrastructure and community projects that can withstand future storms.

On May 18, 2016, the U.S. Department of Housing and Urban Development, or HUD, submitted a proposed rule to the federal register—“Modernizing HUD’s Consolidated Planning Process to Narrow the Digital Divide and Increase Resilience to Natural Hazards.”<sup>46</sup> The rule seeks to have HUD grantees assess extreme weather risks as part of their community project planning process. The Obama administration or the next president should strengthen and finalize this rule to ensure that HUD grantees both assess extreme weather risks and design projects that mitigate them.

On January 20, 2016, FEMA released a notice of proposed rule that would create an incentive for states to invest in disaster risk-reduction strategies.<sup>47</sup> The proposed rule would designate a financial deductible to states for different kinds of disasters. The deductible would be based upon the state’s level of risk to certain threats and other factors. States would have to meet the deductible in order to receive federal disaster assistance but could lower their deductible by taking steps to build resilience. FEMA believes that the deductible would act as an incentive for states to invest in cost-saving disaster mitigation solutions, planning, and preparedness before disaster strikes.

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## Conclusion

Climate change increases the frequency and intensity of extreme weather events and puts an additional public health and economic burden on low-income communities and communities of color already coping with hardships seeded by historic inequities. These communities have been confronted with decades of federal, state, and local government decisions that have made housing less affordable and less resilient; limited transit options; and created pollution health hazards that have placed low-income communities and communities of color on the front lines of climate change effects. The next administration has a responsibility to take immediate steps to strengthen



climate resilience and promote climate justice in low-income areas and communities of color. The next president must do this by enacting policies on climate change, energy, community relations, housing, infrastructure, and more. By adopting the strategies and actions recommended above, the next president would help improve the financial and climate resilience of all Americans.

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