



PROFESSIONAL SOCIETIES AND CLIMATE CHANGE

An analysis of how urban-focused professional societies are integrating climate change into their member engagement activities

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JANUARY 2017

THE KRESGE FOUNDATION

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Introduction

The global climate is changing, leading to an array of impacts that are already being felt across scales and sectors in the United States. To prepare for these changes, individuals from different professional societies, backgrounds, and areas of expertise will need to integrate climate change into their thinking and decision-making. For example, engineers will need to ensure they are planning for a climate-altered future when they design new buildings and bridges. Water resource managers need to understand how precipitation patterns could change in the short and long-term so that they are designing water systems appropriately. And planners need to be aware of how changes in temperature, precipitation, or sea level rise could change the very nature of their local communities, thereby necessitating new land use or zoning policies. Changes such as these require that climate change become a core component of the culture and educational curriculum of nearly every profession.

Unfortunately, little is known to-date about whether climate change is being integrated into professional training programs or the work of professional societies. Without this information, we have a limited understanding of which types of professionals are being trained to deal with climate change, which are not, and what promising climate-related education and engagement practices currently exist that could be readily scaled up.

This report presents the results of a study aimed at addressing these omissions by specifically examining three questions:

1) Which professional societies whose members work in urban areas are integrating climate change into their membership engagement and education efforts, and by default, which are not;

2) How professional societies whose members work in urban areas are integrating climate change into their membership engagement and education efforts; and

3) What opportunities exist for enhancing how professional societies engage with and prepare their members to address climate change?

The ultimate goal of this project is to identify promising practices for training and engaging urban professionals in climate action, as well as to identify areas where more work is needed. This knowledge will help us find ways to ensure that those working in urban areas, regardless of professional background, are equipped with the information and tools needed to create more resilient communities.

Methodology

Phase One

In the first phase, two researchers reviewed the websites and publicly available material (e.g., policy briefs, trainings, newsletters, journal publications, and other external facing materials) for 41 professional societies (Appendix A) to understand if and how they are discussing climate change and social justice with their members. The list of societies included in this analysis was co-determined by the project researchers in tandem with staff at The Kresge Foundation. In general, the list of professional societies analyzed mirrors the diversity of professionals operating at the local level that play a crucial role in building the resilience of local communities to climate change, including architects, builders and developers, doctors and other medical professionals, elected officials and city/county managers, emergency management professionals, engineers, planners, public works officials, social advocates, transportation officials, and water resource professionals.

To objectively analyze each professional society, a coding protocol was developed and applied by the two researchers during the review of each professional society website (Appendix B). This process helped ensure that both researchers were looking for, and categorizing, climate or social justice activities in a similar fashion. To further increase consistency, the coders both tested the coding protocol initially on the same four professional societies. Based on the success of the pre-testing, live coding of the remaining 37 professional societies began in March and concluded in late April 2016.

After successfully analyzing the websites of the 41

professional societies, researchers compiled all coding results into an Excel matrix and began analyzing the aggregate data. Each researcher identified themes and trends within and across organizations independently. Next, the two researchers compared their individual findings, noting areas of both similarity and difference. All differences were discussed and reconciled. Final results were organized into a matrix that characterized the types of climate adaptation, mitigation, or social justice activities each organization provided (Table 1). In addition, all organizations were classified based on the amount and level of climate adaptation, mitigation, and social justice activities or information provided to their membership. Three classifications were used:

- Tier One: Indicating an organization that provided a significant number of high quality resources or information regarding climate adaptation, climate mitigation, and/or social justice to their membership.
- Tier Two: Indicating an organization that provided some climate adaptation, climate mitigation, or social justice information, tools, or resources, but, in aggregate, was

less holistic in their approach than Tier One organizations.

- Tier Three: Indicating an organization that is either not working to engage or educate their membership on issues related to climate mitigation, climate adaptation, or social justice, or an organization that is just beginning to work in these areas and, as such, has very limited resources and information on these topics available to support their members.

Phase Two

In the second phase, 16 follow-up interviews were conducted with individuals working for or representing 15 of the professional societies examined in Phase One. The intent of these interviews was to gain a deeper understanding of how each organization thinks about and engages their membership on issues related to climate change mitigation, adaptation, and social justice. These interviews also provided a forum for each organization to share what they believe are their promising practices, as well as areas where they think more work is critically needed to scale up the training and engagement of urban professionals on climate change and social justice issues.

The list of organizations interviewed was determined based on the desktop analysis conducted in Phase One as well as input from staff at The Kresge Foundation. Significantly more organizations from the Tier One category were selected for interviewing, but an effort was made to ensure that at least one organization from both Tier Two and Tier Three were also interviewed.

To recruit interview participants, an email was sent to an individual identified during the Phase One desktop research as being knowledgeable about the organization's climate change and sustainability activities (e.g. sustainability staff, heads of climate change working groups, executive officers, etc.). Each individual was requested to identify times that would work for a one-hour interview. If a response was not received within one week, a follow-up email was sent. This procedure was followed for a total of four-weeks, meaning that each potential interviewee received up to five emails (the initial invitation followed by four follow-up emails). If an individual did not respond in

that time frame, the researchers tried to identify another representative from the organization for interviewing. If another person could not be identified or if that individual also did not respond to interview requests, the researchers chose another organization to interview. In total, six of the initially identified organizations did not respond to researcher requests. The final list of organizations interviewed included:

1. **American Institute of Architects (AIA)**
2. **American Planning Association (APA)**
(2 different individuals interviewed)
3. **American Public Works Association (APWA)**
4. **American Society of Civil Engineers (ASCE)**
5. **American Society of Landscape Architects (ASLA)**
6. **American Water Works Association (AWWA)**
7. **International City/County Managers Association (ICMA)**
8. **Integrated Network for Social Sustainability (INSS)/ National Academies of Engineering (NAE)**
9. **National Association of Regional Councils (NARC)**
10. **National Emergency Management Association (NEMA)**
11. **National League of Cities (NLC)**
12. **National Medical Association (NMA)**
13. **Natural Hazard Mitigation Association (NHMA)**
14. **Society of Hispanic Professional Engineers (SHPE)**
15. **Urban Land Institute (ULI)**

To assist with standardizing the interviews, the two researchers co-developed an interview guide with staff from The Kresge Foundation. This interview guide (Appendix B) included appropriately 21 questions. Not all 21 questions were asked during each interview. Instead, questions were grouped based on whether they were relevant for professional societies that were thought to be doing a significant amount on climate change and social justice (Tier One organizations), those thought to be doing a modest amount (Tier Two), and those thought to be doing very little on climate change and social justice (Tier Three).

The interviews were intentionally designed to be semi-structured, meaning that the interview guide served as a foundation for the interviews but researchers had the flexibility to ask questions in a different order, to add new questions, or to remove questions from the interview if they were deemed inappropriate. All interviews were conducted between June 27th and August 5th 2016.

After all interviews were completed, the interview transcripts were uploaded to the software NVivo, a qualitative

analysis software that allows for the systematic reading of text in order to identify themes. Researchers then reviewed each of the transcripts looking for commonly cited words, phrases, or activities. This also included looking for themes related to climate change and sustainability issues previously identified by staff at The Kresge Foundation as being important to informing future programmatic thinking and investments.

Once researchers identified a word, phrase, or concept that seemed important, it was highlighted and a new “code” was developed. This allowed the researchers to look for this “code” throughout all of the transcripts in the sample. Once all transcripts had been read and “codes” developed”, researchers then reviewed the “codes” looking for larger themes across all of the transcripts. These major themes identified during the research are presented below along with exemplary quotes that help to illustrate what interviewees said that drew the researchers to identify this issue as important. In the next section we summarize the findings from both Phase One and Phase Two of the research.

Results

Phase One

The results of Phase One show that the majority of professional societies are focused on one, sometimes two, of the three pillars of resilience of interest to The Kresge Foundation: adaptation; mitigation; and social justice. Across the 41 professional societies in our sample, 17 have organizational goals or clear mandates related to social justice and 14 have organizational goals or clear mandates related to either climate mitigation or adaptation. Twelve of the 41 professional societies have clear organizational goals for at least two of the three core areas of resilience; and five have goals in each area (American Institute of Architects; American Planning Association; American Public Health Association; American Society of Landscape Architects; and the Urban Sustainability Directors Network). In contrast, 14 of the 41 organizations have no publicly available organizational goals related to adaptation, mitigation, or social justice.

With regards to operationalizing resilience activities, we found that 27 professional societies had at least one membership meeting either solely focused on climate adaptation issues or where climate adaptation issues were discussed. To identify this code, we looked at the agendas for the most recent (i.e., five years to present) annual conferences, regional workshops, or other member specific meetings. We also found that 28 professional societies had at least one meeting in which issues pertaining to climate mitigation were discussed and 20 had meetings in which issues pertaining to social justice were either the focus of the meeting or were on the agenda for member discussion. A number of professional societies had multiple

meetings or events where climate change or social justice were regularly discussed, including the American Planning Association, American Water Works Association, Association of Metropolitan Planning Organizations, Community Development Society International, International City/County Managers Association, National Association of Regional Councils, the National League of Cities, and the Urban Sustainability Directors Network.

There was significant variation, however, in how much of these meetings were dedicated to climate change or social justice issues. For example, the Community Development Society International's 2015 annual conference was

entitled “Creativity and Culture: Community Development Approaches for Strengthening Health, Environment, Economic Vibrancy, Social Justice, and Democracy.” At this meeting, social justice permeated nearly all sessions. There was only one session focused explicitly on climate change, which was entitled “Community-based climate change programs in Montana and Wisconsin land grant universities.” This variation in focus was mirrored by nearly all professional societies coded, meaning that understanding their unique organizational priorities will be essential for engaging them in efforts to more fully integrate climate change and social justice considerations into their member conferences and meetings.

We also found that 22 of the professional societies analyzed have working groups related to climate adaptation. In these cases, climate adaptation is either the sole focus of the group, topics pertaining to climate adaptation were clearly denoted as being regular items of discussion, or a formal component of the working group’s work plan was related to climate adaptation. Seventeen organizations have similar working groups focused on issues pertaining to social justice, including increasing professional diversity, and 18 have working groups focused on climate mitigation. In all cases, these working groups are composed of members from the respective professional societies that are volunteering their time to advance the goals of the working group. It was not clear how many of these working groups were initiated by the members as opposed to created by the staff of the professional societies. Regardless, the fact that so many professional societies have working groups targeting issues of climate change and social justice suggests that there is a natural entry point for engaging these societies in more holistic resilience work.

In addition to working groups, we also looked across the various professional societies to identify, broadly, what other types of activities they are undertaking to engage their membership in climate and social justice work. In total, we determined that there were nine overarching types of climate or social justice activities represented in our sample: 1) advocacy; 2) education and information dissemination; 3) external partnerships; 4) funding; 5) networking; 6) recognition; 7) research; 8) standard setting; and 9) training (Table 1). Results from this categorization show that most organizations (40 out of 41) are engaging

in at least some activity related to climate change adaptation, mitigation, and social justice. Education and information dissemination was by far the most common activity type identified. This included everything from providing links to helpful resources, producing fact sheets and reports, and hosting webinars or even conferences on topics related to climate change and environmental justice. Advocacy and networking were virtually tied as the second most common activity types. Nearly half of the organizations were advocating for legislation or certain positions or practices with regard to climate change or social justice, and a similar proportion of the professional societies supported networking on these topics through working groups, committees, or forums.

Only a minority (nine or fewer, just over 20%) of the organizations are engaging in any of the other activity categories. For example, we identified nine professional societies that had built external partnerships related to climate adaptation, eight that hosted trainings related to climate adaptation, and even fewer that hosted trainings related to mitigation or social justice issues. Moreover, very few examples could be found of organizations that were conducting their own research or providing funding, recognition, or establishing formal standards for building resilience. The organizations that appear to be engaging in the greatest number of categories across the three pillars (engaging in ten or more of the 27 possible activities - nine activities each for adaptation, mitigation, and social justice) are the American Planning Association, the American Public Health Association, the American Society of Civil Engineers, the American Society of Landscape Architects, the American Water Works Association, the International City/County Management Association, the National League of Cities, National Medical Association, and the Urban Land Institute.

These results confirm that a wide range of techniques are being used to engage professionals in climate change and social justice work. In general, however, few organizations are combining these techniques into a holistic approach to educating and engaging their members. As noted above, the exceptions are the American Planning Association, the American Public Health Association, the American Society of Civil Engineers, the American Society of Landscape Architects, the American Water Works Association, the International City/County Management Association, the

National League of Cities, National Medical Association, and the Urban Land Institute. These nine organizations were found to be the most comprehensive in their approach to climate change adaptation, mitigation, and social justice activities. Perhaps this is not surprising since the members of these organizations will be directly impacted by climate change: municipal officials, planners and architects, public health officials, water resource managers, civil engineers, and land use professionals. The addition of civil engineers and medical professionals, however, was surprising and suggests a significant opportunity for engaging more engineers and medical professionals from alternative disciplines or in alternative professional societies in climate change and social justice work.

What is perhaps more surprising is the number of organizations for which little holistic resilience work could be found. For example, we expected to find greater infiltration of climate resilience thinking into the work of emergency management professional societies, professional societies with an eye towards energy and the environment, sustainability focused professional societies, and engineering professional societies (other than civil engineers). While each of these societies is doing important work, we find that they all have significant opportunities for scaling up the way they engage with and inform their members about climate change and social justice issues. This is particularly important given that engineers, energy professionals, sustainability directors, and emergency managers are all

local stakeholders whose work will be severely affected by changes in climate. Moreover, each of these individuals has a substantial and significant role to play in creating more resilient and just local communities.

That said, we highly expect that USDN, in particular, is doing significantly more engagement with their membership around climate change and social justice than they share publicly. However, this information is not available so we were unable to accurately capture the wide array of activities we believe they are undertaking. This brings us to our last finding: 29 of the 33 professional societies have sections of their website that are designated as “members only”. This means that it is likely that additional resilience-related material exists for many of the professional societies but, since this material is not public, we were unable to capture it in this assessment.

Based on this desktop research we classified all 41 organizations into three tiers (Table 1). Tier One organizations were very engaged in climate resilience with a wide range of member-focused activities related to climate mitigation, climate adaptation, and/or social justice (see Table 1). Tier Two organizations had some climate resilience-related resources and activities on their website, but these appeared to be less central to the organization’s mission and less holistic in nature than those provided by Tier One organizations. Tier Three organizations are those that appear to be doing very little on climate resilience.

Table 1. Characterization of Organizations’ Climate Change Adaptation, Mitigation, and Social Justice Activities¹

	ADAPTATION								MITIGATION								SOCIAL JUSTICE										
	Advocacy	Education & Information Dissemination	External partnerships	Funding	Networking	Recognition	Research	Standard setting	Training	Advocacy	Education & Information Dissemination	External partnerships	Funding	Networking	Recognition	Research	Standard setting	Training	Advocacy	Education & Information Dissemination	External partnerships	Funding	Networking	Recognition	Research	Standard setting	Training
TIER 1																											
American Institute of Architects	X	X			X				X	X									X	X							
American Planning Association	X	X			X		X	X	X	X							X	X	X				X				X
American Public Health Association	X	X	X		X			X	X	X	X		X					X	X								
American Society of Civil Engineers	X	X	X		X	X	X	X	X	X			X	X		X			X				X				
American Society of Landscape Architects	X	X	X		X			X	X	X	X								X	X			X				X
American Water Works Association	X	X			X		X	X	X	X			X						X	X	X		X	X			
International Association of Emergency Managers	X	X			X				X				X						X	X	X		X				
International City/County Management Association		X	X		X				X	X	X						X	X	X	X	X		X		X		X
National League of Cities	X	X	X		X		X		X	X	X		X		X				X	X				X	X		
Urban Land Institute			X	X	X		X		X	X			X		X				X				X				
Urban Sustainability Directors Network				X	X							X	X						X	X		X	X				
TIER 2																											
American Institute of Certified Planners		X						X	X								X	X	X								X
American Meteorological Society	X	X			X				X	X			X							X							
American Public Works Association	X	X			X				X	X																	
American Society of Adaptation Professionals	X	X			X	X				X										X							
Association of Climate Change Officers		X			X				X	X			X			X	X										
Association of Metropolitan Planning Associations	X	X								X										X							
Association of State Floodplain Managers	X	X	X	X	X	X	X	X	X																		
Building Owners and Managers Association									X	X							X	X	X								
Ecological Society of America		X			X				X	X										X				X			
National Association of Regional Councils	X	X	X						X	X																	
National Emergency Management Association		X																		X	X						
National Medical Association	X	X	X		X				X	X	X		X						X	X							
Natural Hazard Mitigation Association		X			X				X	X										X							
The United States Conference of Mayors	X								X					X	X				X	X			X				
TIER 3																											
American Society for Public Administration																							X	X			
Association of Environmental and Resource Economists		X								X																	
American Society of State and Transportation Highway Officials		X								X										X							
Community Development Society International		X																				X					
Integrated Network for Social Sustainability																				X							
International Economic Development Council		X								X			X														
International Society of Sustainability Professionals		X								X										X							
National Association of City Transport Officials										X																	
National Recreation and Parks Association																			X	X							
National Society of Black Engineers		X								X			X						X								
National Society of Professional Engineers		X							X	X										X							
Society of Black Journalists										X									X				X		X		
Society of Environmental Journalists		X								X										X							
Society of Hispanic Engineers																											
US Water Alliance		X								X																	
Women’s Council on Environment and Energy		X			X					X										X							

¹ Note: In the table ‘X’ indicates that an organization is engaged in this category of activity. Organizations with all grey boxes are those without any activities related to either climate adaptation, mitigation, or social justice. Organizations are grouped based on their “Tier”, with those classified as Tier One coming first, followed by Tier Two, then organizations classified as Tier Three.

Phase Two

In the second phase of our project, we interviewed a subset of the 41 organizations coded in Phase One. Individual profiles for each of these organizations summarizing the results of the Phase One coding and Phase Two interviews are provided in Appendix D. While there was variation in what and how interviewees are engaging their members on climate change and sustainability issues, just over 20 clear themes emerged across nearly all of the interviews, including:

Peers Matter: Nearly all interviewees noted that their members listened to their peers. Sharing of stories, case studies, examples, promising practices, etc., were all either important elements driving member-related climate action or areas where the professional societies thought more work was needed. Overall, this speaks to a clear need to find champions within each of these professions, give them a platform to tell their stories, and then help them disseminate their stories more widely. The same idea of peer learning also applies to the professional societies themselves. As one interviewee noted, there is a real need for different engineering professional societies to get together, exchange practices, and collaborate.

Stories, Stories, Stories: Nearly every interviewee mentioned the need for more stories of adaptation or mitigation in action. Stories were desired from peers (e.g., from an architect to an architect), and in an actionable format. For example, ICMA noted that they are working on products in response to member demands for “knowing more about what someone else has done. Knowing they have tried it.” Knowing this, they posit, makes members more “willing to shed their risk adverse nature,” and embrace climate-resilience actions.

Competing Priorities are a Limiting Factor for Action: Most organizations struggled with how to do more on climate change and sustainability because they had other, more imminent priorities. For example, the American Water Works Association noted that they are focusing on lead and arsenic in drinking water because of all the attention due to the Flint, Michigan water crisis. Interviewees struggling with competing priorities asked: “how do you create a demand function from the membership to make these issues a priority?”

Sustainability is a Dominant Frame: Nearly all of the interviewees mentioned that they frame their work around sustainability. In almost all of these cases, climate change was seen as an element of the larger sustainability work. Sustainability was seen as more politically palatable than climate change and was easier for their constituencies to understand (partly because many organizations have been working on sustainability for over a decade). In fact, nearly all of the organizations we deemed as “leaders” (Tier One) on climate change are organizations that have been working on sustainability related issues for years (e.g., NLC, ULI). This suggests that sustainability may be an entrée for more climate-related work, as long as climate change is effectively and appropriately integrated into sustainability programs.

Disaster Preparedness/Resilience is Another Common Frame: Similar to sustainability, a number of organizations mentioned that they use disasters and resilience as a mechanism to discuss climate change with their membership. This was especially true for the professional organizations that are directly impacted by natural disasters (NEMA, NHMA, AIA, APA, APWA). For example, the AIA noted that their Center for Communities by Design runs a “design assistance” program that helps with post-disaster recovery, ensuring that people build back in “smarter” ways that can withstand future changes in climate. This speaks to the larger need to “take advantage” of disasters in order to transform the way we think, build, and operate our urban areas. To do this, however, necessitates that these ideas are in place before the disaster strikes; if they aren’t, then the community risks rebuilding the way it was pre-disaster.

Adaptation and Resilience Prevalent – Not as Much Mitigation: While some organizations are doing extremely good work on mitigation, a number mentioned that it’s much easier and more politically palatable to work on adaptation/resilience initiatives. One reason for this is that the rationale behind why the climate or natural disasters are changing doesn’t matter, it only matters that these changes are leading to more intense and frequent natural disasters that are impacting local communities. As such, it’s an easier sell to get members to think about and focus on adaptation or resilience initiatives than it is for mitigation. Put another way, natural disasters and climate impacts directly infringe

upon the ability of most professionals to do their jobs. This makes it easier to understand why action in this area is needed. This broad finding, however, is not true for organizations that have been working on sustainability issues for more than a decade; in these cases, climate mitigation and adaptation are both seen as integral parts of their broader sustainability agenda. Moreover, an initial interest in adaptation and resilience may lead to more interest in mitigation. As APWA noted, “In [the] early days everyone said public works was a hurdle to getting stuff done on mitigation, but resilience has been a great opportunity... a better way for public works to embrace the climate issue.”

Focus on Proactively Meeting Professional Mission: A number of organizations are directly or indirectly working on climate change related issues because they see that it will impact the missions or mandate of their members. For example, planners and architects are tasked with protecting the health, safety, and general welfare of the citizenry. Climate change is and will continue to impede the ability of planners and architects to meet this mission, so AIA, ASLA, and APA are all working on how to help their members integrate climate change into their work.

Action in Washington, DC is Needed: A number of respondents mentioned that if federal agencies or the President made climate change a major priority, their membership would follow. This was often framed as the need for federal agencies and the President to set the stage and tone for the nation’s climate agenda. In contrast, a number of other folk mentioned that federal leadership was irrelevant. What did seem to broadly hold was a need for climate change to be integrated into federal funding programs and federal requirements. This will send a clear signal that climate change matters and will require all those downstream seeking federal funding to begin integrating climate into their programs and operations.

Educate the Public...As Well as Membership: Two groups of interviewees noted that educating the public was important: 1) those whose members already understand that the climate is changing but need more public support to fully embrace a climate agenda; and 2) those whose members are climate deniers or indifferent to climate change but will act if the public demands it. In either case, the professional organizations noted that there is a clear need for the public to understand and demand more action on climate change

before certain groups of professionals (e.g., architects) are able or willing to act to their full potential. That said, another group of interviewees made it clear that they have limited ability to educate the public and, thus, focus education efforts on their membership. In fact, across nearly all organizations interviewed and surveyed, climate-related educational or informational resources were prevalent (present in 31 of the 41 organizations analyzed).

Professional Expertise: An Asset and Liability: A few interviewees mentioned that professional expertise is both an asset and a liability. It’s an asset because it allows individuals to gain a deep level of understanding that can help them do their specific job to a high level of competence. It’s a liability because many professions focus on one topic, meaning that individuals have a depth of knowledge in one area but lack the breadth of knowledge to deal with the really wicked problems facing our communities (e.g., climate change, social inequalities). This speaks to the need to transform our educational programs (high school and college) to train burgeoning professionals to think broadly as well as deeply about their work and the role they play in building more resilient, just, and sustainable communities.

Short, Digestible Resources are Needed: Approximately half of the respondents noted that they are explicitly developing short, pithy resources and educational materials for their members because larger reports have not historically been used. In these cases, memos, webinars, executive summaries and other short documents or interactive platforms were being created. There was also a nearly universal demand for more resources that are concise, interactive, and based on professionally relevant information.

Young Professionals are Often Drivers of Climate and Sustainability Work: A number of interviewees commented that young professionals and millennials are driving a lot of the climate and sustainability work unfolding in their organizations. They believe this is because young professionals are more ethically and socially driven, emerging from their educational institutions with a strong desire to advance principles of sustainability.

Progressive Members Drive Action: As mentioned above, millennials can be drivers of professional society work on climate change and sustainability. In addition, a number of interviewees mentioned the influence that a small subset of

progressive members can have in moving the organizational needle on climate change and sustainability. For example, the National Association of Regional Councils (NARC) has been working with a small subset of environmental directors to organize a workshop on climate change for all of the environmental directors in the network. While climate change was not listed as a high priority for all NARC members, it was a very high priority for this small group of members, and consequently they are taking the lead in organizing this workshop and exploring the creation of an NARC internal working group on sustainability and climate change.

Social Equity Not Dominant...But Interest in Learning More: Few organizations felt like they were actively working on social justice or social equity issues. Several noted a growing demand from members for more resources in this area. And even more stated that the organization itself would like to see more work and resources developed on social justice and social equity issues facing (or likely to face) their membership.

Those Focusing on Social Equity Tend to Be Weak on Climate Change: Interviewees that are doing significant work on social equity and justice issues tend to have little to no work streams dedicated to climate change. For example, the Society of Hispanic Professional Engineers noted that they have no programs focused on climate change or sustainability as they are solely focused on representational parity within the profession. They said they could see themselves focusing on these issues in the future, but only after they see more Hispanics in engineering positions.

Collaboration is Essential: Every single organization interviewed collaborates extensively. Most of them are always looking for new partners that will help round out their expertise, bring important insights to their membership, or help make their voice stronger. A number of interviewees also mentioned a need for creating “One Voice” around climate change and sustainability issues. The logic here is that all organizations speaking with one voice would make the call for action louder, hopefully leading to more action from others such as federal and state governments.

Climate Change and Water is an Emerging Topic: Over 50% of the interviewees mentioned a growing demand from their membership on issues related to climate change and water. This suggests an area in which investments and

resources could be deployed to help professional societies prepare their membership for addressing water related issues in a changing climate (too much, too little, quality issues, etc.).

Hunger for Metrics: There was a common interest in more metrics or indicators that can help professionals know both 1) how to do resilience or climate work and 2) how to know that they are doing it right. This involves both the updating of training curriculum so that individuals leave their institutions knowing how to integrate climate change considerations into their jobs and the training and constant evolution of the field via standards of practice that help determine if the actions being taken by these professionals are actually creating more sustainable, resilient, and just communities.

Capacity is Lacking: Not surprising, nearly all organizations mentioned that capacity is one of the things preventing them from doing more on climate change. This capacity was almost always related to staff capacity, although about 50% of interviewees did mention financial capacity as well.

Bridge the Science – Policy Divide: Another area of common need was assistance with bridging the science-policy divide. In some organizations, the capacity existed to help translate scientific information into a format that was understandable and usable by members. However, for many more organizations, this capacity and expertise did not exist in house. This means that more assistance with translating scientific information for decision-making and more work on the co-production of information is needed to help bridge this divide.

Membership Organizations are Varied: While not surprising, remembering this is crucial to understanding how an organization engages with its members and what it is capable of doing. Some of the organizations in our sample are composed of appointed members (e.g., National Academy of Engineering), others are composed only of professionals working on a given topic (e.g., AIA), others are composed of professionals and the public (e.g., APA), and still others are open to anyone (e.g., NHMA).

A Continuum of Organizational Action on Climate Resilience

Based on the analysis completed in Phase Two, we believe there is an iterative continuum of organizational action on climate change. At the beginning of the continuum are organizations that are just beginning to educate their membership on climate change and social justice issues. These organizations tend to focus on providing information via resources on a website or organizing a single session on climate change at an annual conference. On the other end of the spectrum are organizations that are advocating for climate action at the federal level, producing climate-related educational

curriculum for their membership, and developing professional standards related to climate change. While this continuum is fluid and iterative, we think it represents an interesting way of organizing the professional society landscape. This concept (Figure 1) also provides a useful heuristic for thinking about where to target investments to help individual professional societies better engage their membership on climate change and social justice issues. Table 2 provides an initial assessment of where each of the organizations interviewed in Phase Two exists on the continuum of climate resilience activities.

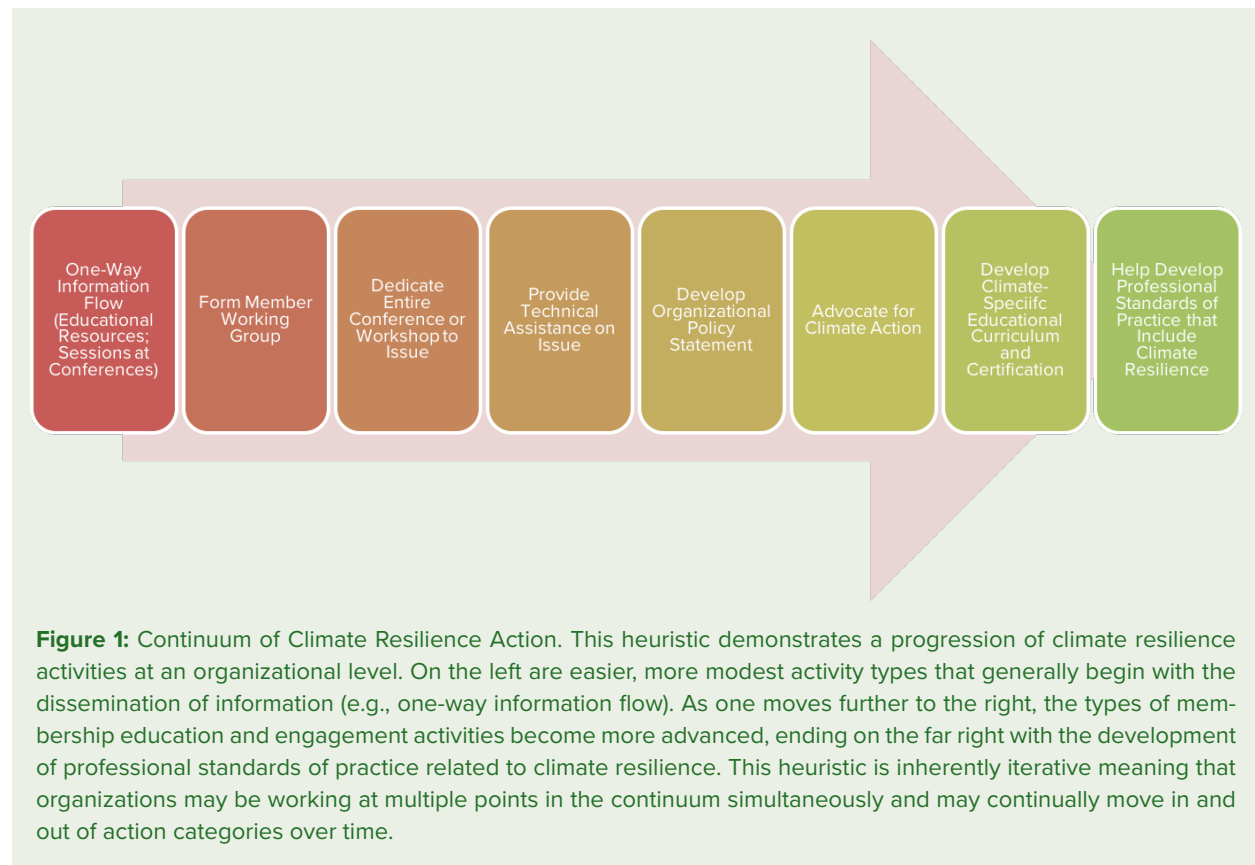


Table 2: List of organizations that provide each of the specific types of climate adaptation, climate mitigation, or social justice activities identified on the continuum of climate resilience activities.

Organizational actions	Professional Societies
One-Way Information Flow (Educational Resources; Sessions at Conferences)	Integrated Network for Social Sustainability /National Academies of Engineering Society of Hispanic Professional Engineers
Form Member Working Group	National Emergency Management Association
Dedicate Entire Conference or Workshop to Issue	American Public Works Association National Association of Regional Councils
Provide Technical Assistance on Issue	International City/County Managers Association American Water Works Association
Develop Organizational Policy Statement	National Medical Association Natural Hazard Mitigation Association
Advocate for Climate Action	American Planning Association National League of Cities National Medical Association
Develop Climate-Specific Educational Curriculum and Certification	Urban Land Institute American Institute of Architects
Help Develop Professional Standards of Practice	American Society of Civil Engineers American Society of Landscape Architects

Conclusions and Next Steps

The research profiled in this white paper has only begun to scratch the surface of how professional societies are engaging or could engage their members on issues related to climate change adaptation, climate mitigation, and social justice. The findings shared in the previous sections demonstrate that there is wide variation in the level of sophistication and breadth of resources that professional societies are using to educate or engage their members on climate resilience related activities. On the positive, we found many more organizations actively working on issues related to climate resilience than expected, and many others that are eager to begin (or enhance) working on the issue.

Looking to the future, we see a number of strategic opportunities for holistically mainstreaming climate change and social justice into the operations and engagement strategies of professional societies whose members are key urban stakeholders. These suggested actions would provide value for nearly all organizations analyzed, regardless of where they fall on the continuum of climate resilience activities. We sincerely hope that some of these activities will be embraced by those with the capacity and will to transform the way that urban professionals think about and engage on issues related to climate change and social justice.

Uniting Social Justice Organizations and Climate Change Organizations: Research results showed a notable divide between those organizations working on issues related to social justice or social equity, and those working on climate change. This speaks to a clear need to bring together

these diverse communities so that they can learn from each other, come to understand each other's motivators and modes of operation, and explore opportunities for uniting climate change and social justice work in practice. This action could be initiated through a working group on climate change and social justice within the American Society of Adaptation Professionals, or it could start with a targeted convening (perhaps at a social justice conference or at the 2017 National Adaptation Forum) in which individuals working in each of these topical areas are invited to share their experiences and explore areas of synergy as well as divergence.

Create a Standard-Bearer Road Show: Given that every professional society interviewed noted that their members listen to their peers, an opportunity may exist to identify members doing exemplary work on climate change and social justice, and then provide them with a platform to

share their story. The specific mechanisms for what this looks like would need to be co-developed with the standard bearers themselves. However, one possible model is that a percentage of their time could be “bought out” from their local communities or organizations of employment so that their time is freed to tell their story, offer more personalized advice to peers looking to replicate their experience, or provide hands on assistance with overcoming barriers to action in peer communities.

Story Development: Stories clearly matter. Investing in a mechanism for stories to be collected and shared would be enormously valuable. This mechanism would need to find a consistent way to continually tell stories, especially as the practice of resilience grows and advances. Moreover, these stories would need to be short and pithy in order for them to be accessible by the intended audience. Short videos or recordings, 1-2 page case studies, a podcast series, or a social media blitz are possible mediums that could be used to tell peer stories. Two potential vehicles for disseminating stories include the creation of a YouTube channel on climate resilience and/or the creation of podcasts for Infinite Earth Radio.

Professional Society Peer Learning Network: Given the variability in professional societies’ engagement with resilience issues, there is a real opportunity to promote peer learning across organizations. It is possible to envision different levels of engagement, with the simplest being a one-time report on the different strategies professional societies have used to promote resilience, with examples, which would be disseminated to organizations and made publically available. A further step might be to develop an online platform and network that professional society staff could use to share practices (perhaps through the American Society of Adaptation Professionals). Another option might be to organize and fund in-person meetings where professional societies come together, as suggested by one interviewee, to share their experiences, challenges, and promising practices. The National Adaptation Forum or the New Partners for Smart Growth conference may be ideal places for this face-to-face networking.

Survey of Membership: The results from this research (discussed above), focus solely on what the professional society staff say about their work on climate resilience

activities. Our knowledge about whether or not this work is valuable or being used, however, is limited because we have not engaged the end-users in this assessment. As such, one potential next step is to survey the membership of certain professional societies to understand their current knowledge base around climate change, what climate-related resources they are using, what they need/want, and what they are individually doing around climate resilience (e.g., begin the process of collecting stories of climate-related action). This survey could be administered at regular time intervals in order to assess changes in the activities and needs of various urban professionals.

Invest in Peer Networking: Individuals listen to their peers. As such, one key area for investment (or continued investment) is in peer networking. Creating spaces where peers can come together (figuratively, remotely, and physically) is an area of nearly universal interest from the organizations profiled in this research. In some cases, this networking can be done through existing channels (through member forums, through established member webinars, or at existing member conferences). In other cases, new mechanisms to support peer networking will need to be developed. Importantly, not all urban professionals are easily categorized meaning that collaborations between professional societies may be needed in order to cohesively support peer networking (e.g., AIA and ALSA should collaborate in their peer networking endeavors).

The six aforementioned ideas are some of the most obvious ways, based on the research profiled in this report, that professional societies can be leveraged to scale up the amount of climate resilience work unfolding in urban areas. As these ideas get implemented, new ones will emerge. Since adaptation is not an end state but a process, continued investment in creating more just and resilient communities will be needed. However, the six actions highlighted above could provide a solid foundation upon which to build future climate resilience work.

We sincerely hope the results discussed in this report help stimulate thinking and investment in urban resilience. At the end of the day, it is all of our responsibility to ensure that we are creating a more resilient and just society – regardless of our profession.

Appendices

Appendix A: List of Professional Societies Analyzed During Phase One

American Institute of Architects
American Institute of Certified Planners
American Meteorological Society
American Planning Association
American Public Health Association
American Public Works Association
American Society for Public Administration
American Society of Adaptation Professionals
American Society of Civil Engineers
American Society of Hispanic Engineers
American Society of Landscape Architects
American Society of State and Transportation Highway Officials
American Water Works Association
Association of Climate Change Officers
Association of Environmental and Resource Economists
Association of Metropolitan Planning Organizations
Association of State Floodplain Managers
Building Owners and Managers Association
Community Development Society International
Ecological Society of America
Green Building Certification Institute
Integrated Network for Social Sustainability
International Association of Emergency Managers
International City/County Management Association
International Economic Development Council
International Society of Sustainability Professionals
National Association of City Transport Officials
National Association of Regional Councils
National Emergency Management Association
National League of Cities
National Medical Association
National Recreation and Parks Association
National Society of Black Engineers
National Society of Professional Engineers
Natural Hazard Mitigation Association
Society of Black Journalists
Society of Environmental Journalists
The United States Conference of Mayors
Urban Land Institute
Urban Sustainability Directors Network
US Water Alliance
Women's Council on Environment and Energy

Appendix B: Professional Society Coding Protocol Used During Phase One Analysis

Field General Information	Description
Organizational mission	Description of mission, values, and objectives
Organizational activities	Summary of major activities; making sure to address whether activities are targeted only at members or are external (if external, who they are targeting)
Years of operation	Detail about how long the organization has been active. Format: <starting year>-<ending year> (<total number of years>)
Members or target stakeholders	Details about who composes the organization's membership
Is there a members only section on the website?	Yes or no
IRS classification	Details on whether organization is a non-profit and what kind
Summary of governance structure	Details on how the organization is structured and managed
Diversity of leadership or membership	Description of any explicit efforts to foster diversity of leadership or membership
Resilience Activities	
Climate staff	Details about any paid staff at the organization that are dedicated to climate adaptation, resilience, mitigation, or sustainability
Climate adaptation goals	Details on any formal adaptation or resilience goals or objectives
Climate mitigation goals	Details on any formal climate mitigation goals or objectives
Social justice goals	Details on any formal social justice goals or objectives
Sustainability goals	Details on any formal sustainability goals or objectives
General overview of adaptation efforts	Description of any adaptation-related programs, activities, messaging materials, trainings, etc.
Adaptation related meetings	Details about any meetings where adaptation was emphasized on the agenda
Adaptation related working groups	Details about any adaptation related working groups operating within the organization
General overview of mitigation activities	Description of any mitigation-related programs, activities, messaging materials, trainings, etc.
Mitigation related meetings	Details about any meetings where mitigation was emphasized on the agenda
Mitigation related working groups	Details about any mitigation related working groups operating within the organization
General overview of social justice efforts	Description of any social justice-related programs, activities, messaging materials, trainings, etc.
Social justice related meetings	Details about any meetings where social justice was emphasized on the agenda
Social justice related working groups	Details about any social justice related working groups operating within the organization
Potential individuals to interview	Names and contact information for people who might be useful to interview
Other	
Notes	Any other notes
General Coding Guidelines	Use quotes to denote sentences taken directly from website; for organizations with a lot of relevant activities - summarize range and scope; for organizations with very little, include specifics.

Appendix C: Interview Questions

1. How does your organization influence your member's work? (Tier 1, 2, and 3)
2. What other organizations do your members affiliate with? (Tier 1, 2, and 3)
3. What other organizations does your organization collaborate with on a regular basis? (Tier 1, 2, and 3)
4. What place, if any, do you see climate change playing in your activities to educate and engage your membership? (Tier 1, 2, and 3)
5. Does your organization engage members on issues related to climate change mitigation and adaptation? If so, how? (Tier 1,2, and 3)
6. From our research, it appeared that your organization is doing a lot around climate change adaptation and mitigation. Can you tell me why your organization has made climate change a priority? (Tier 1 and 2)
7. We noted that your organization appears to have resources focused on [name types of resources based on coding]. Can you tell me why you decided to create climate resilience resources in these areas? (Tier 1 and 2)
8. Who is driving climate resilience work at your organization (if additional prompting is needed: is it driven by the members or a leader within the organization)? (Tier 1 and 2)
9. Is your organization thinking about mitigation and adaptation as integrated practices (or separate)? (Tier 1,2, and 3)
10. Who do you think your members' really listen to on the topic of climate resilience (i.e., who are the standard-bearers that your members listen to)? (Tier 1, 2, and 3)
11. Who else do you think your members might listen to if they spoke up on issues related to climate change? (Tier 1, 2, and 3)
12. Do you think your organization's climate resources are being used to change members' work on the ground? Do you have an example or two you can share? (Tier 1 and 2)
13. Is there a demand from members to do more on climate change? (Tier 1 and 2)
14. What barriers do you face, if any, to doing more work on climate change? (Tier 1, 2, and 3)
15. Are you working on issues at the intersection of climate change and social justice? (Tier 1, 2, and 3)
16. Is equity and social justice something your members are interested in learning more about? (Tier 1, 2, and 3)
17. In your opinion, what do you think it takes to shift the field of practice to be more climate aware? (Tier 1, 2, and 3)
18. Why is climate resilience not emphasized by your organization? (Tier 3)
19. Do members seem interested in more information or activities related to climate resilience? (Tier 3)
20. What would it take to get your organization to start working on climate resilience? (Tier 3)
21. Are there any other questions you wish I had asked or last thoughts you'd like to leave us with? (Tier 1, 2, and 3)

Appendix D: Organizational Profiles for 15 Professional Societies Examined in Phase Two

Name	American Institute of Architects
Membership	Architectural professionals including licensed architects, emerging professionals, and allied partners.
Core competencies	Advocacy, education and information dissemination, partnership building, and networking.
Climate mitigation activities	<p>AIA has an official position statement supporting a transition to a carbon neutral built environment. The organization is committed to the goal of reducing energy consumption in the built environment by the year 2030 through the “2030 Commitment” program, part of the “2030 Challenge.”</p> <p>AIA led the international adoption of the 2050 Imperative at the International Union of Architects’ 2014 meeting in Durban, South Africa.</p> <p>AIA incorporates embodied carbon and Life Cycle Assessment in its Materials Matter initiative, has published a whole building LCA guide and is incorporating embodied carbon reduction in an online and in-person education curriculum.</p> <p>AIA has a Committee on the Environment (COTE), which “serves as the community and voice on behalf of AIA architects regarding sustainable design.”</p> <p>AIA provides various resources (briefings, issue papers) on building emissions and climate change.</p>
Climate adaptation activities	<p>AIA has an official position statement advocating for community resilience and the creation of sustainable and resilient built environments. The position and robust associated programming recognizes the increasing impacts of shocks and stresses on communities related to a changing environment and specifically refers to the growing threat of natural hazards, climate change, environmental degradation and population growth.</p> <p>AIA provides various resources on resilience such as policy reports, issue briefs, workshops, conferences and online education courses.</p> <p>AIA is developing a resilience curriculum for architects to augment current education offerings in post-disaster building safety assessments and resilient coastal design in addition to several online courses that address climate change adaptation and community resilience.</p> <p>AIA hosted a resilience summit in 2015 bringing together federal agencies, practitioners, academics and leaders in the non-profit sector to discuss issues and strategies related to hazard mitigation, climate adaptation and community resilience.</p> <p>AIA created the National Resilience Initiative with the American Institute of Architects Foundation, a network of design studios working on increasing resilience to climate change and natural hazards.</p> <p>AIA has a design assistance program where customized, interdisciplinary teams work on community-level resilience and climate adaptation projects through public processes</p> <p>AIA’s Design and Health Initiative is educating professionals on several strategies to enable architects to address climate-related threats in building design and construction including air quality, the prevalence and spread of disease, extreme heat, and the availability of clean water</p> <p>AIA is a platform partner in the 100 Resilient Cities program.</p> <p>In 2014, the AIA co-led (with NIBS) the development of the Building Industry Statement on Resilience, in large part due to the increasing frequency and severity of natural hazards triggered by climate change. This statement brings together leaders in the design, construction, and building management sectors, each committing to resilience research, education, advocacy, and planning. The Statement now has 42 signatories</p>

Name	American Institute of Architects
Social justice activities	<p>AIA has an official position statement supporting civil rights.</p> <p>The AIA Academy of Architecture for Justice (AAJ) knowledge community promotes and fosters the exchange of information and knowledge between members, professional organizations, and the public for high-quality planning, design, and delivery of justice architecture. In 2010 this group articulated a holistic vision through their white paper “Sustainable Justice 2030: Green Guide to Justice.”</p> <p>In 2010 AIA hosted a conference on “Architecture for Social Justice.”</p> <p>In 2017, AIA will be promoting a series of resources on democratic urbanism to counter trends toward top-down decision-making in cities and promote an inclusive methodology for city-building.</p>
Future interest or activities	“Would like to see initiatives aimed at changing the national dialogue on climate change, putting it more in the spotlight.”
Tier	1
Location in continuum	Develop Climate-Specific Educational Curriculum and Certification

Name	American Planning Association
Membership	Planning professionals including planners, students, commissioners, educators, engaged citizens, and allied professionals.
Core competencies	Advocacy, education and information dissemination, networking, partnership building, training, and research.
Climate mitigation activities	<p>APA has an official policy guide on climate change and one on energy, the latter supports carbon pricing or incentives for GHG reductions.</p> <p>APA has many publications and trainings related to mitigation, such as a “Connecting Climate Action, Transportation, and Sustainability” and “Hazard Mitigation: Integrating Best Practices into Planning” (PAS Report 560).</p> <p>Various sessions at APA’s national conference relate to mitigation.</p>
Climate adaptation activities	<p>APA has an official policy guide on climate change.</p> <p>APA has various adaptation or resilience-related ongoing research projects, such as “Innovations in Planning and Public Engagement for Community Resilience” and “Naturally Resilient Communities”, and two current NOAA-funded projects, “Incorporating Local Climate Science to Help Communities Plan for Climate Extremes”, and “Building Coastal Resilience through Capital Improvement Planning.”</p> <p>APA’s Hazards Center has a number of projects and community partnerships to build resilience</p> <p>APA has multiple publications that look at climate adaptation or resilience. Planning advisory reports are particularly popular, such as “Planning for post disaster recovery: next generation.”</p> <p>APA created Sustaining Places standards for comprehensive plans, which addresses adaptation planning.</p> <p>APA provides various trainings and e-learning courses such as “On Demand: Post Disaster Recovery in a Changing Climate.”</p> <p>APA maintains a library of planning resources and publications, some of which focus on climate change adaptation and resilience, as well as a robust website section for the Hazards Planning Center.</p> <p>Climate change is prominent theme at national conference, with various sessions related to adaptation or resilience, such as “Regional Climate Change Resilience Through Collaboration.”</p> <p>APA has a Sustainable Communities Division, a Hazard Mitigation and Disaster Recovery Planning Division, and other divisions and initiatives that address climate adaptation.</p>
Social justice activities	<p>APA has various publications and trainings related to social and environmental justice, for example an editorial in Planning entitled “Planning’s role in social justice”, a training on “Social Equity Strategies for Cities”, or events on “Finding Justice in the Low Carbon Transition.”</p> <p>Some sessions at APA’s conference relate to social justice, such as “Building Transportation Equity” and “Breakthrough Communities: Environmental Justice and Planning.”</p> <p>APA’s Sustaining Places standards for comprehensive plans include interwoven equity as a core principle.</p> <p>APA has a standard Diversity Forum as part of their annual conference.</p> <p>APA has Latinos and Planning, LGBTQ and Planning, Planning and the Black Community, and Women in Planning Divisions.</p>
Future interest or activities	<p>Would like resources to increase community assistance programs, allow them to do field experiments and on-the-ground research. Then the lessons from these projects could feed back into the organization’s national research and distributed for peer learning. Case studies are crucial.</p> <p>Want to work on the intersection of climate change and social justice through the lens of public health.</p>
Tier	1
Location in continuum	Advocate for Climate Action

Name	American Public Works Association
Membership	Individuals, agencies, or corporations with an interest in public works and infrastructure issues. Members include personnel from local, county, state/province, and federal agencies, as well as private sector personnel who supply products and services to those professionals.
Core competencies	Education and information dissemination (primary focus for climate change), advocacy, networking, and professional certification.
Climate mitigation activities	<p>APWA supports federal climate change legislation and advocates for local climate mitigation</p> <p>APWA's Center for Sustainability has an online toolkit with a bevy of resources focused on climate mitigation, adaptation, and sustainability in general.</p> <p>APWA Reporter magazine also has articles related to resilience and mitigation, such as "Twenty tips to combat global warming for public works professionals."</p> <p>APWA has publications on community resilience and green building, ex. "understanding your agency's carbon footprint."</p> <p>APWA continues to foster engagement with this topic through direct engagement with chapters, blog posts, webinars, and at our annual conference.</p>
Climate adaptation activities	<p>APWA advocates for local climate adaptation and supports local government adaptation funding</p> <p>APWA's Center for Sustainability has resources organized by subject, including the subjects 'climate change mitigation' and 'climate change resilience'. They provide various case studies and reports of local government climate action.</p> <p>APWA's Center for Sustainability has an online toolkit with a bevy of resources focused on climate mitigation, adaptation, and sustainability in general. Many of these relate to climate adaptation, such as the "EPA Climate Resilience Evaluation and Awareness Tool (CREAT)" and "FHWA Climate Change Adaptation Guide."</p> <p>APWA organized a symposium on climate change and various presentations, as well as a roundtable at APWA's annual conference, focused on adaptation.</p> <p>APWA's Emergency Management Technical Committee includes adaptation as one of its focus areas.</p> <p>APWA continues to foster engagement with this topic through direct engagement with chapters, blog posts, webinars, and at our annual conference.</p>
Social justice activities	None
Future interest or activities	They are continuing to add resources to their online toolkit and developing partnerships with key organizations to continue to promote more engagement by public works on climate mitigation and adaptation.
Tier	2
Location in continuum	Entire Conference or Workshop Dedicated to Issue

Name	American Society of Civil Engineers
Membership	Engineers, students training to be engineers, and related professionals.
Core competencies	Education and information dissemination, developing professional standards, networking, and advocacy.
Climate mitigation activities	<p>ASCE is engaged in climate-related political advocacy at the state and federal level.</p> <p>Sustainability is a part of ASCE's professional code of ethics and climate change is one of ASCE's technical areas of focus.</p> <p>ASCE, the American Council of Engineering Companies, and American Public Works together founded the Institute for Sustainable Infrastructure, which administers the ENVISION Rating System for infrastructure sustainability.</p> <p>ASCE produces publications (blog posts, reports, professional journals, etc.) related to climate change, such as "Climate Change Modeling, Mitigation, and Adaptation."</p> <p>ASCE gives an annual Innovation in Sustainable Civil Engineering Award.</p> <p>ASCE has climate-related centers and committees: Environment and Water Resources Institute, Energy Division and Wind Engineering Division.</p>
Climate adaptation activities	<p>ASCE is engaged in climate-related political advocacy at the state and federal level.</p> <p>ASCE publishes research and guidance on US infrastructure and climate impacts.</p> <p>ASCE, the American Council of Engineering Companies, and American Public Works together founded the Institute for Sustainable Infrastructure, which administers the ENVISION Rating System for infrastructure sustainability, which incorporates climate risks.</p> <p>ASCE provides courses and webinars on topics like "Disaster Resilience for Sustainable Design" and "Bridging the Gap Between Climate Science and Engineering Practice."</p> <p>ASCE gives an annual Innovation in Sustainable Civil Engineering Award.</p> <p>ASCE produces various publications (blog posts, reports, professional journals, etc) with articles related to climate change, such as "Climate Change Modeling, Mitigation, and Adaptation" and "Sea Level Rise and Coastal Infrastructure."</p> <p>ASCE organizes conferences and workshops on topics related to climate adaptation.</p> <p>ASCE has a Committee on Adaptation to a Changing Climate.</p>
Social justice activities	<p>ASCE's courses "Engineering for a Sustainable Future" and "Community Participation" include a focus on social equity.</p> <p>A number of articles, books, and conference proceedings in the ASCE library relate to social justice and ASCE has a blog post entitled "Where Does Civil Engineering and Human Rights Intersect?"</p> <p>Various resources (webinars, blog posts, articles) on promoting diversity and inclusion in the workplace</p> <p>The ENVISION rating system includes social justice components</p> <p>ASCE has a Diversity and Inclusion Committee</p>
Future interest or activities	<p>Two areas where ASCE could really use financial support: 1) Convening different engineering disciplines to find out what they are doing individually and support collaboration. 2) Research funding to support incorporation of projections of climate/weather extremes into engineering standards.</p>
Tier	1
Location in continuum	Help Develop Professional Standards of Practice

Name	American Society of Landscape Architects
Membership	Diverse membership including landscape architecture professionals, architects, planners, developers, engineers, product manufacturers and suppliers, and students.
Core competencies	Advocacy, education and information dissemination, training, and networking.
Climate mitigation activities	<p>ASLA has a policy statement on climate change and a code of environmental ethics.</p> <p>ASLA has a Professional Practice Network focused on Sustainable Design and Development.</p> <p>ASLA has a webpage on combatting climate change with numerous mitigation-related resources.</p> <p>ASLA created a resource guide on “increasing energy efficiency” and an “energy efficient home landscapes” animation.</p> <p>Various articles in the Landscape Architecture Magazine and blog, “The Dirt” are related to mitigation, such as a 2014 post on “How to create a climate change mitigation and adaptation plan.”</p> <p>ASLA has a working group providing input on model codes within ASHRAE 189.1 specific to site sustainability and water use.</p>
Climate adaptation activities	<p>ASLA is engaged in political advocacy and public education on the topic of resilience.</p> <p>ASLA has a policy statement on climate change and a code of environmental ethics.</p> <p>ASLA has a webpage on combatting climate change with numerous resources on adaptation and resilience.</p> <p>ASLA has resource centers for critical issues like storm water. They create resource guides on topics like green infrastructure, livable communities, and sustainable transportation.</p> <p>ASLA works with educators and schools through Council of Educators of Landscape Architecture.</p> <p>Various articles in the Landscape Architecture Magazine and blog, “The Dirt” relate to adaptation.</p> <p>ASLA’s “Landscape Architecture Continuing Education System” has offered courses on adaptation, such as the 2012 “Landscape Systems, Urban Heat Island, and Climate Change: a landscape architecture approach to adapt.”</p> <p>ASLA helped to develop the “Sustainable Sites Initiative”, a rating system for “sustainable design, construction, and maintenance of landscapes”. It is now owned by GBCI.</p> <p>ASLA launched a new online Guide to Resilient Design resource center this summer.</p>
Social justice activities	<p>ASLA has a policy statement on environmental justice and it is part of their code of ethics.</p> <p>ASLA recently created the Environmental Justice Professional Practice Network, which aims to expand efforts to support environmental justice.</p> <p>Various articles in ASLA’s magazine, blogs, and online news discuss social justice.</p> <p>Environmental justice referenced in the description for the continuing education classes, such as “Environmental Ethics 1: Foundations and Considerations.”</p> <p>ASLA contributed content on social equity to the Built Environment section of the U.S. Climate Resilience Toolkit published by NOAA and the White House.</p>
Future interest or activities	<p>ASLA is completing a revision of its 2008 Statement on Climate Change and will convene an interdisciplinary Blue Ribbon Task Force in 2017 to develop public policy recommendations to foster climate change mitigation and adaptation.</p> <p>Climate change has been identified as an ongoing special focus area across program areas. The issue will continue to be addressed in 2017 in education programming, advocacy, and communications.</p>
Tier	1
Location in continuum	Help Develop Professional Standards of Practice

Name	American Water Works Association
Membership	Individuals and organizations working or interested in water, including water utility employees, municipal officials, public health professionals, engineers, scientists, students studying water, etc.
Core competencies	Education and information dissemination, training, and networking.
Climate mitigation activities	<p>AWWA has policy statements on sustainability and climate change, which support efforts of water utilities to invest in mitigation.</p> <p>AWWA provides online library of resources and produces various publications (books, articles in scholarly journal, operations newsletter) on climate change.</p> <p>AWWA organizes conferences, forums, webinars, and presentations related to climate change. Over 100 presentations with the search term “climate change” came up in archived proceedings of past AWWA conferences.</p> <p>AWWA has a climate change resource community and two climate change committees, one technical- one policy-oriented.</p>
Climate adaptation activities	<p>AWWA has policy statements on sustainability and climate change, which supports efforts of water utilities to invest in adaptation.</p> <p>AWWA provides online library of resources and produces various publications (books, articles in scholarly journal, operations newsletter) on climate change.</p> <p>AWWA sells a set of security standards and manual for emergency planning that includes “Risk and Resilience Management of Water and Wastewater Systems.”</p> <p>AWWA produces an annual “State of the water industry” report, which discusses climate impacts.</p> <p>AWWA organizes conferences, forums, webinars, and presentations related to climate change. Over 100 presentations with the search term “climate change” came up in archived proceedings of past AWWA conferences.</p> <p>AWWA has a climate change resource community and two climate change committees, one technical- one policy-oriented.</p>
Social justice activities	<p>Concern about lead service lines has made social justice a bigger focus.</p> <p>AWWA has a policy statement on diversity and nondiscrimination and a “diversity center”, which provides guidance on diversity and member inclusion, runs a diversity award, and recognizes special emphasis observances months (like women’s history month).</p> <p>AWWA, American Society of Civil Engineers and Engineers Without Borders-USA jointly sponsor the Community Engineering Corps, which provide technical expertise to underserved communities in the United States and ensure that their infrastructure meets their needs.</p> <p>Various presentations at past conferences focused on social justice issues, such as a 2015 presentation on “What’s in your rates? Droughts? Recycled Water? Social Justice?”</p> <p>AWWA has a diversity and member inclusion committee.</p>
Future interest or activities	<p>In interview it was suggested that there is limited demand for additional climate resources or training from members. More interest in climate as part of integrated water resource planning. Members are often unable to travel to in-person events so need alternative formats for educating and engaging.</p> <p>Need help putting climate change into the context of other challenges water utilities face (infrastructure failures, lead pipes, etc)</p>
Tier	1
Location in continuum	Provide Technical Assistance on the Issue

Name	International City/County Managers Association
Membership	ICMA's members are made up of over 11,000 professional city, town, and county managers who are appointed by elected officials to oversee the day-to-day operation of our communities globally.
Core competencies	Education and information dissemination, training, networking, external partnerships, and research.
Climate mitigation activities	<p>ICMA focuses more on adaptation, limited work on mitigation as part of broader sustainability agenda.</p> <p>ICMA utilizes the CityLinks methodology: Through CityLinks U.S. cities with effective mitigation and adaptation strategies are partnered with their counterparts in developing and transitioning countries to help develop locally appropriate solutions to climate-related challenges.</p> <p>Provide various reports on climate change for their members, including "Getting smart about climate change" and "Subnational Approaches for Low Emission, Climate Resilient Development."</p> <p>ICMA has been awarded several million dollars worth of federal grants to help local governments in the US and abroad increase energy efficiency and renewable energy use through policy reform, training, research, and knowledge management/dissemination.</p> <p>ICMA is working in two regions in the Republic of Georgia to reduce GHG emissions in the solid waste management sector.</p> <p>ICMA is a member of the U.S. Department of Energy's SunShot Solar Outreach Partnership</p> <p>Since 2003, ICMA and the U.S. Environmental Protection Agency (EPA) have jointly organized the National Brownfields Conference.</p>
Climate adaptation activities	<p>ICMA produces webinars and educational materials for members on resilience.</p> <p>ICMA held a forum on climate resilience at the 2016 annual conference.</p> <p>ICMA produces publications (books, reports, articles) on climate change adaptation.</p> <p>In partnership with ISC, ICMA ran a Climate Leadership Academy on Urban Adaptation: From Risk Barriers to Results.</p> <p>Through its CityLinks program ICMA facilitated a partnership between Southeast Florida and Durban, South Africa to replicate and scale the climate compact model. Using the model for regional climate governance is continually being explored.</p> <p>ICMA does federal grant and contract work related to adaptation globally.</p> <p>ICMA has a Sustainable Communities committee and Climate Preparedness, Adaptation, & Resilience Working Group - formed to bring climate change efforts from Arizona State University together with ICMA's CityLinks program.</p>
Social justice activities	<p>ICMA's engagement at the intersection of climate and social justice is limited, but they do have a national priority focus on diversity and inclusiveness with specific goals.</p> <p>ICMA was awarded a \$49 million project funded by USAID Philippines for Strengthening Urban Resilience for Growth and Equity (SURGE).</p> <p>ICMA has a \$5 million project funded by USAID that looks at municipal planning and climate change in the Dominican Republic with an emphasis on vulnerable communities.</p> <p>ICMA produced reports for HUD project: Advancing Social Equity Goals to Achieve Sustainability.</p> <p>ICMA provides other resources, such as: Membership Diversity Strategic Plan; Task Force Report on Women in the Profession; Diversity + Inclusion Resources.</p> <p>Various sessions at ICMA conferences were related to diversity and social justice.</p>
Future interest or activities	Argue for a focus on education and advocacy. In the interview they mentioned that they are trying to find more unrestricted funding that allows them to nimbly follow members and produce resources that they know are useful and appropriate for the members as opposed to what funders think is important.
Tier	1
Location in continuum	Provide Technical Assistance on Issue

Name	Integrated Network for Social Sustainability / National Academies of Engineering
Membership	Engineers and allied professionals. For the National Academies of Engineering members are invited.
Core competencies	Education and information dissemination and networking.
Climate mitigation activities	NAE produces reports on climate change, such as “the Climate Change Educational Partnership: Climate Change, Engineered Systems, and Society.” NAE held a roundtable on sustainability.
Climate adaptation activities	NAE produces reports on climate change, such as “the Climate Change Educational Partnership: Climate Change, Engineered Systems, and Society.” NAE’s journal, the Bridge, will have an upcoming issue on infrastructure resilience. For the first time the forum at the 2016 NAE annual meeting will be on the topic of sea level rise.
Social justice activities	NAE’s engagement with the issue of social justice is somewhat limited, although NAE does have a Center for Engineering Ethics and Society where social justice is a central theme Previously had a forum where the theme was social justice and community development.
Future interest or activities	Would recommend funding educational activities that could be reused in multiple venues and places to talk about the social justice pieces of climate change adaptation and mitigation.
Tier	3
Location in continuum	One-Way Information Flow (Educational Resources; Sessions at Conferences)

Name	National Association of Regional Councils
Membership	Both elected officials and professional staff from regional planning agencies, development districts, and councils of governments.
Core competencies	Education and information dissemination and networking.
Climate mitigation activities	<p>NARC has a policy paper on a variety of environmental issues, including climate mitigation and adaptation.</p> <p>NARC focuses heavily on energy issues, including lobbying for energy regulation, energy efficiency standards, and smart development policies. They have a regional energy action plan, solar programs, sustainable energy programs, and work force and renewable energy development resources.</p> <p>NARC has hosted webinars and workshops on climate change.</p> <p>NARC has a chart that provides an overview of several regional plans and GHG reduction targets in addition to a series of resources focused on green infrastructure, green jobs, solar, and shale gas development.</p>
Climate adaptation activities	<p>NARC has a policy paper that supports their stance on a variety of environmental issues, including climate change adaptation and mitigation.</p> <p>NARC has a website dedicated to climate change adaptation and resiliency which includes things such as: NARC work with the University of Colorado at Denver to explore how regional planning organizations are responding to climate change, as part of the Building Community Resiliency project, and link to resources that other organizations have which may be of value to NARC members.</p> <p>NARC has a series of resources focused on green infrastructure.</p> <p>NARC sponsored a short-term center of excellence in Delaware focused on climate adaptation and green infrastructure.</p> <p>NARC had multiple sessions at 2016 conference focused on regional resiliency. They also had a session at their 2014 conference on preparing for climate change in transportation sector. NARC appears to have regular webinars on topics related to climate including scenario planning, modeling, green infrastructure, etc.</p>
Social justice activities	NARC has limited resources specifically on social justice on their website, but have given recognition for members' work in this area through Sustainability block grants.
Future interest or activities	<p>In the interview, NARC said they would be happy to partner to disseminate information or tools that Kresge produced to their member communities.</p> <p>NARC is also always looking for good speakers on these topics.</p>
Tier	2
Location in continuum	Entire Workshop or Conference Dedicated to the Issue

Name	National Emergency Management Association
Membership	The emergency management directors from all 50 states, eight territories, and the District of Columbia.
Core competencies	Networking, education and information dissemination, and advocacy (federal level).
Climate mitigation activities	NEMA is primarily focused on adaptation.
Climate adaptation activities	<p>NEMA works with partner agencies to develop resources on increasing disaster resilience, like the white paper entitled “Recommendations for an Effective National Mitigation Effort.”</p> <p>NEMA’s annual forum includes a focus on economic resilience and disaster recovery. At their 2015 mid-year meeting, they had a session on 100 Resilient Cities campaign.</p> <p>Climate adaptation is included in NEMA’s 2016 National Issues Brief</p> <p>NEMA has a climate change working group under the Response and Recovery committee.</p> <p>Adaptation to extreme weather is listed as one of the issues for NEMA’s preparedness committee.</p>
Social justice activities	So far NEMA has been less engaged on issues of social justice.
Future interest or activities	<p>In the interview NEMA emphasized the importance of combining practice and academic research.</p> <p>The NEMA representative also suggested that communities need more guidance on how to navigate different programs and resources.</p>
Tier	2
Location in continuum	Member working group formed

Name	National League of Cities
Membership	US municipalities, primarily elected officials, and senior-level managers.
Core competencies	Advocacy, education and information dissemination, and networking.
Climate mitigation activities	<p>NLC advocates for, and has position statements on policies to promote mitigation, clean energy, and sustainability.</p> <p>NLC has a variety of projects, conferences, and resources related to mitigation and sustainability.</p> <p>NLC has a Sustainable Cities Institute, which has a section on climate change resilience, buildings and energy, transportation, land use and planning, etc. These webpages provide links to various resources related to the topic.</p> <p>NLC, along with the Urban Land Institute, operates the Rose Center for Public Leadership in Land Use, which provides resources and assistance on sustainable land use practices.</p> <p>Climate change is a top priority for the Energy, Environment, and Natural Resources Federal Advocacy Committee.</p> <p>NLC engages in the policymaking process, for example commenting on and supporting the EPA's Clean Power Plan rule.</p> <p>NLC part of partnership developing SolSmart (score card for community's support of solar).</p>
Climate adaptation activities	<p>NLC advocates for, and has position statements on, policies to promote climate adaptation.</p> <p>NLC has a variety of projects, conferences, and resources related to climate adaptation.</p> <p>NLC has a Sustainable Cities Institute, which has a section on climate change adaptation and resilience. This provides information and resources related to adaptation planning, urban heat, sea level rise, etc.</p> <p>NLC supports the WaterNow Alliance, for more sustainable water use.</p> <p>NLC works with cities to develop and test different initiatives, like a new "Leadership in Community Resilience" pilot project to help 10 cities implement part of their climate plans.</p> <p>NLC has organized a number of resilience-related conferences, summits, and workshops.</p>
Social justice activities	<p>NLC has position statements that advocate for environmental justice.</p> <p>NLC has an internal working group on health disparities.</p> <p>NLC has developed a Race, Equity, and Leadership (REAL) program.</p> <p>NLC is training and building the capacity of city leaders to address the Social Determinants of Health</p>
Future interest or activities	Getting the federal government to do more.
Tier	1
Location in continuum	Advocate for Climate Action

Name	National Medical Association
Membership	Physicians of African-American descent primarily.
Core competencies	Advocacy (primary focus), education and information dissemination, physician training, networking, and research.
Climate mitigation activities	<p>NMA has an adopted policy on climate change that recognizes the threat of climate change and advocates for policies to address it, including promoting clean energy in health care facilities and homes.</p> <p>The NMA has a Commission on Environmental Health (formerly an Environmental Health Task Force) which advances the organization's work on climate change (both adaptation and mitigation) and is responsible for raising funds to implement the resolutions in the climate change policy.</p> <p>NMA conducted a 2014 physicians' survey on climate change.</p> <p>NMA is partnering with the White House and others to increase capacity to engage with national and state efforts on climate and health.</p> <p>NMA is helping physicians to 1) write op-eds about their experiences with the health effects of climate change and their support of the Clean Power Plan, 2) sign a climate for health pledge (sustainability pledge) encouraging healthcare facilities to become more sustainable, and 3) speak to civic and social groups about health effects of climate change.</p> <p>NMA provides media training for physicians via webinar and in-person at conferences.</p> <p>The NMA's Commission on Environmental Health has continued to provide environmental health education on chemical policy and climate change to NMA members and other health professionals; and they have published a number of news articles related to climate change and public health.</p>
Climate adaptation activities	<p>To date, NMA has been more focused on promoting mitigation policy than adaptation. It does, however, educate its members on the increased vulnerability of their patients to health effects of climate change and the need for their vulnerabilities to be addressed in state and local mitigation strategies. It also advocates at the federal and state level around issues of climate change and public health.</p> <p>NMA has an adopted policy on climate change that recognizes the threat of climate change and advocates for mitigation and adaptation policies to address it.</p> <p>The NMA is partnering with the White House and others to increase capacity to engage with national and state efforts on climate and health.</p> <p>The NMA's Commission on Environmental Health has continued to provide environmental health education on chemical policy and climate change to NMA members and other health professionals; and they have published a number of news articles related to climate change and public health.</p>
Social justice activities	<p>The NMA focuses on health disparities and has been documenting and addressing health effects of climate change on their patients and advocating on behalf of disproportionately affected communities of color and low-income communities.</p> <p>NMA has been working with Public Health Institute to develop, update, and train physicians on a physicians' guide on climate change, health and equity.</p> <p>NMA physicians are educating Black civic, social, and civil rights groups in California on health and climate justice. It is also raising climate change as a health disparity issue in national conferences.</p> <p>NMA members have started appearing on broadcasts, and getting op-eds published in ethnic media.</p>

Name	National Medical Association
Future interest or activities	<p>NMA lacks the resources and capacity to provide physicians and local affiliates with customized materials and support for climate change public education and advocacy work (e.g. op-eds, radio appearances, public speaking) and to meet the demands for engagement in policy development.</p> <p>NMA has identified more than 30 African American physicians who are interested in becoming certified as climate change experts and would like to convene them for intensive training on the climate change, health, and equity guide. Suggest that it could be strategic to work with other medical professional associations to share resources and build capacity to engage on climate policy (e.g. other physician of color organizations, and medical specialty groups).</p>
Tier	2
Location in continuum	Advocate for climate action

Name	Natural Hazard Mitigation Association
Membership	Practitioners, academics, professionals, government officials, and students working to reduce the risks of natural hazards.
Core competencies	Education, peer-to-peer consultations, advocacy, training, networking.
Climate mitigation activities	NHMA's work is more focused on adaptation, but they do provide some educational materials on mitigation; and seek to do more in this area
Climate adaptation activities	<p>NHMA's adaptation work focuses primarily on education and advocacy. They produce adaptation-related educational and advocacy resources, webinars, peer-to-peer consultations & technical support, review of legislation and policy and focused outcome orientated Symposia (conferences).</p> <p>NHMA's 2016 Practitioners Symposium focused on "Encouraging Local Grassroots Hazard Mitigation and Climate Adaptation."</p> <p>NHMA has an adaptation committee and a disaster resilient communities committee.</p> <p>NHMA created the Resilient Neighbors Network (RNN) to facilitate peer-to-peer networking for various professionals working on hazard mitigation and adaptation.</p> <p>NHMA has pilot tested and is continuing to develop a Disaster Risk Reduction Curriculum which seeks to create a credentialed system of education about how we can achieve Disaster Risk Reduction as an element of Resilience and Climate Adaptation</p> <p>NHMA is working with Clemson University, the University of Maryland and the US Army Corps of Engineers to implement a three community grass roots pilot project known as "Practical Community Resilience" This project will use students based in these communities to identify needs and opportunities for community based climate adaptation action including supporting these activities by using the disaster Risk Reduction Curriculum</p>
Social justice activities	NHMA provides various educational and advocacy resources related to social justice.
Future interest or activities	<p>NHMA would like help getting climate science and specifications for more resilient (both efficient and robust) buildings into curricula they are currently developing. We would also like to work to coordinate more closely with the many other organizations seeking to develop a more Resilient and just future.</p> <p>They are working in particular to develop standards to support Disaster Risk Reduction through groups such as the National Institute of Building Standards, the National Institute of Standards and Technology, the American Bar Association, and other professional societies. Also working to pilot climate-specific educational curriculum and in the process of developing a certificate program, which is primarily based on disaster risk reduction and climate adaptation.</p>
Tier	2
Location in continuum	Developed Organizational Policy Statement

Name	Society of Hispanic Professional Engineers
Membership	Hispanic Individuals who possess or are pursuing an engineering, math, physical, applied, and computer science degree. 80% of members are students.
Core competencies	Education and information dissemination and networking.
Climate mitigation activities	Adaptation not a focus for SHPE at this time. They are exclusively focused on achieving professional representational parity.
Climate adaptation activities	Adaptation not a focus for SHPE at this time. They are exclusively focused on achieving professional representational parity.
Social justice activities	SPHE is exclusively focused on achieving professional representational parity and therefore increasing the diversity of the engineering profession.
Future interest or activities	Climate resilience is not a focus for SPHE.
Tier	3
Location in continuum	One-Way Information Flow (Educational Resources; Sessions at Conferences)

Name	Urban Land Institute
Membership	ULI has more than 40,000 members worldwide, representing the entire spectrum of land use and real estate development disciplines working in private enterprise and public service.
Core competencies	Education and information dissemination, networking, recognition and research.
Climate mitigation activities	<p>ULI conducts research and offers events and programs on various mitigation-related topics, including the nexus of land use, energy, climate change and real estate. ULI provides numerous resources related to climate mitigation in different formats, from white papers to magazine articles to webinars.</p> <p>ULI's Center for Sustainability includes the Urban Resilience Program and the Greenprint Center for Building Performance, the latter of which focuses on energy use and climate mitigation at a building scale. The Urban Resilience Program focuses on helping communities prepare for increased climate risk at the regional and community scales through land use, energy efficiency and building design decisions.</p> <p>Sustainability and climate mitigation are relevant to nearly all of the land use and real estate issues addressed by ULI. This could be in the shape of energy efficiency discussions, land use discussions, or discussions directly about GHG reductions.</p> <p>ULI hosts two members' Meetings per year, which draw roughly 4,000-7,000 people each. There are often sessions on topics relevant to climate mitigation, such as resilience and energy efficiency.</p>
Climate adaptation activities	<p>ULI provides numerous resources related to climate adaptation in different formats.</p> <p>As part of the Urban Resilience Program (funded by Kresge) ULI 1) hosts Advisory Services panels in communities around the country focusing on resilience planning, 2) conducts research and produced papers on resilience that are strategic and relevant for the real estate and land use community, 3) hosts convenings including the Building the Resilient City conference in 2014 and the 2016 Resilient Cities Summit, and 4) awards grants through its District Councils for local resilience activities.</p> <p>ULI also hosts regular webinars and integrates resilience concepts into other organizational events.</p>
Social justice activities	<p>Social justice is an important component of ULI's Urban Resilience program, but it also comes up in other issue areas, including ULI's Building Healthy Places program, and the Terwilliger Center for Housing, which conducts research on workforce and affordable housing.</p> <p>ULI has a number of presentations and publications that touch upon the issue of social justice, but there does not appear to be a stand-alone initiative focused exclusively on the topic. There are some sessions at annual conferences that discuss equity issues and webinars held throughout the year that focus on justice and equity, but less than climate change and sustainability.</p>
Future interest or activities	Yes. They also made note that The Kresge Foundation funding has been crucial for ULI's climate-related work, including the Urban Resilience program.
Tier	1
Location in continuum	Develop Climate-Specific Educational Curriculum and Certification