Green Urbanism Leaders Summit

summary, outcomes, and ideas

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**green urbanism:** the practice of creating communities mutually beneficial to humans and the environment
Why a Green Urbanism Summit?

On February 12 and 13, 2009, Global Green USA gathered a group of carefully selected urban and environmental thinkers and doers for two days of discussion on the topic of green urbanism. Our goal for the Green Urbanism Leaders Summit was to clarify this compelling, but elusive, concept. We also hoped to arrive at some degree of agreement on the main principles of green urbanism, especially how to put these ideas into action. Also of importance was to expand the community of people that felt either an affinity to, or at least curiosity about, the subject.

We hoped to create a combination of principles and practices with a high level of ambition such that the end result could address the vast scale of urban problems in the 21st century. It is with this spirit that we convened the Summit and gradually assembled the group that came together for two days of thinking, talking, debating, writing, eating, drinking, and sharing.

The group was diverse by design. We invited ecologists, artists, architects, policy makers, journalists, urban planners, academics, engineers, activists, and scientists. This reflected both our personal interests and the understanding, gleaned from many years of practice, that conceiving and creating green cities is a complex, creative, and often convoluted process, enriched by a diversity of perspectives. Any hope that greening our cities can occur in a conventional, reductive, linear process, directed by any one group, is misplaced.

A pre-Summit informal survey revealed that, despite its diversity in professional background, the group of participants shared some common beliefs and perspectives. To identify the most fruitful opportunities for better interweaving ecological and urban functions we asked, “which natural processes are most amenable to integration with buildings and infrastructure?” Water and capture of the sun’s energy were the most mentioned subjects. This is not surprising, as these elements of the natural (or pre-human settlement) world have maintained similar qualities for millennia, even if how urban areas manage these resources has changed significantly over time. When asked whether they felt that in the United States it is possible to create a mutually beneficial urban/rural relationship, 87 percent of the participants responded yes. We took this to be a strong voice of optimism, and some validation that we were on the right track.

Which natural processes are most amenable to integration with buildings and infrastructure? (check all that apply, by %)

- Water cleaning
- Solar radiation
- Water supply
- Photosynthesis
- Soil creation
- Other

0 10 20 30 40 50 60 70 80
Of equal importance were the responses to a question about “fairness” and its relation to green urbanism. An overwhelming 83 percent responded that fairness is the philosophical foundation and/or a component of green urbanism. This shows that while there is a clear ecological component and recognition of the rights of all species in the green urbanism discourse, there is a strong element of the human-to-human relationship, as well.

With this general agreement on the big foundational issues going into the Summit, we thought that the diversity of the group’s perspective and experience could be effectively directed through a thoughtfully structured agenda and seasoned facilitation. We quickly learned otherwise. Perhaps it was too many smart people in too small of a space, or the overwhelming and very serious degree of interest and engagement in the topic, that brought us to a very different place than we expected.

Instead of a set of cleverly crafted and poetically written principles of green urbanism, what emerged primarily was a sense of urgency. Urgency about the near certain and likely wrenching impact that climate change will have on cities. Urgency about the need to truly recognize that a green city must also be an equitable city. Urgency about not just weathering a difficult economic downturn, but about establishing a post-carbon economy that is based on local cycles of investing, making, fixing, trading, and growing, instead of pure consumption of globally produced goods.
and services. This sense of urgency was conveyed through an articulation of the various crises that cities contribute to, and face, in the future:

- Cities today consume too much non-renewable energy, exacerbating the climate crisis and resulting in unhealthy pollution, waste, and unproductive economic costs.

- The correlation between high incidences of poverty and environmentally induced chronic illness is unacceptable.

- Current water management practices create crises of scarcity, pollution, and flooding due to population density, consumption patterns, and impervious surfaces.

- The consumption-based economy has led to a monocultural, and thus unresilient, economy that is vulnerable and does not build diverse skills, economic equity, or social capital.

- Gorging on artificially cheap carbon has promoted sprawl, inequity, and culture of consumption, poor health, and privileging the car over people, neighborhoods and the commons – in short, leaving us fat, vulnerable, and isolated from one another.

Action was the suggested response to these crises. And the Summit revealed the depth of the talent that is already thinking and acting around green urbanism issues – both by those in the room and by those who have inspired us. Despite the sense that many of the participants seem to be traveling in the same direction, it became clear that each one was forging a distinct path. Green Urbanism holds the promise of being a unifying theme, if not a unifying set of principles.

The common direction is clear: our ability to rise to this challenge is a function of whether we change how we see our place in the world. By understanding that people are part and parcel of nature, and have never been external to the ecological flows of the natural world, we can become reconnected to nature, shift how we perceive our relationship to the environment, and reevaluate what we want – and what we need – from that most wondrous of human inventions, the city.
The location, form, and function of ancient cities were defined by necessity by their natural surroundings. With the emergence of the modern city this was no longer the case. Nature could be manipulated through canals, pipes, roads, and wires, allowing for distant resources to be imported to meet the demand for food, water, heating fuel, and electricity. Similar systems were created to remove waste or locate noxious uses outside of the urban sphere. Nonetheless, the mid-19th century industrial city was a loud, stinky, crowded, and often unhealthy place. Early precedents for green urbanism stem from this period, often as means for mitigating or providing a counterpoint to the clamor and grime associated with city life. Ebenezer Howard’s plan for Garden Cities of Tomorrow proposed one solution: creating a new healthy place outside of the city. The iconic graphics for the Welwyn Garden City sound almost like an epic saga: yesterday you were “living and working in the smoke,” and today you are “living in the suburbs and working in the smoke,” while tomorrow the garden city offered “living and working in the sun.”

But for many, the option of fleeing the city was not a viable option, and therefore the city itself needed to be the focus of attention. Improving the lot of urban dwellers, combined with a deep knowledge and respect for natural phenomena and processes, underpins Frederick Law Olmsted’s many urban projects. The Emerald Necklace in Boston sets a high early standard for the design, function, and aesthetic quality of any green urbanist project. Serving as flood control, habitat, passive open space, recreation, and urban beautification, the carefully linked series of parks also has a major visible influence on the structure of Boston, thus bringing nature into the city and providing residents with authentic opportunity to interact with aspects of a functioning ecosystem as part of a typical day. Equally impressive as the design of the Emerald Necklace is its resiliency. Taking more than 30 years to complete – more of an ecological time frame than a political one – and surviving multiple challenges from developers and city officials that were more inclined to fill in the waterways than preserve their natural function, the realization and durability of the project is a testament to the dynamism of the integration of human needs and ecological processes.

Despite these early recognitions of the need to link human developments with the natural environment,
and excellent examples of how to design places with that approach, the most common path for development in the US was to control, manipulate, and dominate nature in the process of building towns and cities. Post-war development brought a new level of ecological disregard. The photographs taken by William Garnett, chronicling development of the City of Lakewood in southern California, document the wholesale obliteration of all existing features in preparation for the new community. Originally taken for a real estate developer to promote recent advances in the efficiency of housing production, the photographs now convey the extreme lack of sensitivity for the natural surroundings common of modern community design and construction.

Reactions to this post-World War II pattern of development and other innovations brought by modern science and engineering were both cautionary and instructive. While coming from very different vantage points, Jane Jacobs with the *Death and Life of Great American Cities* (1961) and Rachel Carson with the ecological warning call of *Silent Spring* (1962) set a framework for two of the foundational elements of green urbanism: an awareness of the global impact brought by human manipulations to the environment, and the need to value the dynamism, fecundity, and creativity of cities and urban communities.

McHarg’s book is deeply inspiring in its guidance on how the natural world continues to manifest itself – formally and functionally – in human settlements, and describes how an awareness of the continual influence of these natural aspects can be valuable tools in guiding future plans. Equally transformative was the definition of a methodology for combining multiple issues and data points related to climate, soil, slope, geology, fauna, etc. to better understand the natural qualities of a particular place and shape designers’ efforts to modify those conditions to meet human needs and desires.

While Design with Nature includes discussions on how to see the traces of natural features and systems in the modern city, McHarg’s maps of southeast Pennsylvania, striking for their ability to be an ecological guide to the proper location of future development, offer little insight into what should be built in those places. Furthermore, McHarg does not outline a means of applying the approach to the redesign or retrofit of an existing city.

And cities were certainly in need of thoughtful assistance, as degrading environmental conditions were a strong thread in the urban narrative of the 1960s. Providing a capstone to increasing concerns about smog, litter, and the disposal of toxic chemicals over the course of the decade, 1969 brought both the Santa Barbara oil spill – still one of the largest ecological disasters to impact an urban area – and the Cuyahoga River fire in Cleveland. The impacts of our environmental intransigence were beginning to show up in our backyards. Combined,

these events contributed to the growing understanding that cities were places disconnected from the beauty, tranquility, and pristine qualities associated with the natural world and that it was time for serious regulation to protect nature from human harm, and humans from harming each other through irresponsible environmental management. President Nixon, while staring at dead birds on the beach in Goleta, could not have been unmoved by the damage to one of the most stunning places in his home state of California. That he later signed into the law the National Environmental Policy Act, and significant amendments to the Clean Air and Clean Water acts is perhaps no surprise.

But while activists and politicians were responding to the need to address the impacts of cities on the environment, the design community, or at least the ecologically enlightened minority, were rapidly abandoning the city to create off-the-grid, self-sustaining houses and Earthships, designing new solar cities on sensitive greenfield sites, or making the pilgrimage to the ecotopia in the Arizona desert - Arcosanti. The concept of the city having the potential to be an environmentally beneficial entity had not yet emerged.

Slowly an urban awareness began to develop in the design community. One of the most transformative voices was Anne Spirn, with the publication in 1985 of The Granite Garden: Urban Nature and Human Design. The beautifully written prologue swiftly and evocatively sets the parameters for a new perspective on the city, as part and parcel of the natural world.
The realization that nature is ubiquitous, a whole that embraces the city, has powerful implications for how the city is built and maintained and for the health, safety, and welfare of every resident. Unfortunately, tradition has set the city against nature, and nature against the city. The city must be recognized as part of nature and designed accordingly. The city, the suburbs, and the countryside must be viewed as a single, evolving system within nature, as must every individual park and building within that larger whole. The social value of nature must be recognized and its power harnessed, rather than resisted. Nature in the city must be cultivated, like a garden, rather than ignored or subdued.

As this perspective began to take form in the projects and writing of a group of disconnected but like minded practitioners such as Michael Sorkin, James Corner, and Newton and Helen Harrison, cities were becoming the predominant habitat of the human species. Rethinking both our expectation of resource use and how we designed and lived in cities became essential to ensuring a decent standard of living across the planet. With this understanding lurking in the background, the 1989 report Our Common Future prepared by the Bruntland Commission produced what has become the most commonly used definition of sustainability: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”
This definition served as the basis for Agenda 21, one of the major outcomes of the 1992 Rio Earth Summit. Included in Agenda 21 among directives to nations regarding responsible resource management was a “local Agenda 21” that encouraged cities to establish sustainability plans.

Cities and towns across the world rose to this challenge, setting out to define what sustainability meant in the context of local governments and in actual projects on the ground. Addressing resource use, economic vitality, and social justice individually was elusive, but to combine them was an even greater challenge. Clever strategies employed by Jaime Lerner, the politically adept architect mayor of Curitiba, Brazil, showed that sustainability could be the source of deep innovation.

But how to create sustainable cities without the singular driving force of an elected official or charismatic leader? The principles drafted in 1992 by Bill McDonough and Michael Baumgart to guide the design of the 2000 Hannover World’s Exposition were created to set a standard for sustainability across the entire event which involved many designers, builders, and operators.

While created for an event that is long since past, the Hannover Principles live on as a description of how to apply a deep ecological thinking process to the design process, thus taking a critical step beyond the useful, but somewhat tired meme of people, profit, planet.
In preparing for the Green Urbanism Leaders Summit, we saw the Hannover Principles as more than just inspiration about how to articulate the goals and qualities of green urbanism. The Principles appeared to be the best effort to date to describe, in a way that is poetic and evocative, but also with an eye toward application and implementation, the rules of engagement for making green cities.

But we also knew that applying the Principles to a city, rather than a more contained event like a World’s Expo, meant that the Principles would likely need some augmentation. The authors themselves wrote, “the Hannover Principles should be seen as a living document committed to the transformation and growth in the understanding of our interdependence with nature, so that they may adapt as our knowledge of the world evolves.” One of the obvious areas for addition is in the area of social justice, fundamental in the context of an actual city, but perhaps less of an issue within the confines of a short-term event.

The late 1990s brought a renewed focus on the building as a way to create tangible representations of sustainability at a manageable scale, with a new moniker “green building.” Over the ensuing years various green building rating systems, most notably LEED, further explored and defined how to create buildings with a higher level of environmental performance than code delivered. Global Green has helped shape these standards and show what can be achieved with the combination of a committed

### Hannover Principles

1. **Insist on rights of humanity and nature to co-exist** in a healthy, supportive, diverse and sustainable condition.

2. **Recognize interdependence.** The elements of human design interact with and depend upon the natural world, with broad and diverse implications at every scale. Expand design considerations to recognizing even distant effects.

3. **Respect relationships between spirit and matter.** Consider all aspects of human settlement including community, dwelling, industry and trade in terms of existing and evolving connections between spiritual and material consciousness.

4. **Accept responsibility for the consequences of design** decisions upon human well-being, the viability of natural systems, and their right to co-exist.

5. **Create safe objects of long-term value.** Do not burden future generations with requirements for maintenance of vigilant administration of potential danger due to the careless creation of products, processes or standards.

6. **Eliminate the concept of waste.** Evaluate and optimize the full life-cycle of products and processes, to approach the state of natural systems, in which there is no waste.

7. **Rely on natural energy flows.** Human designs should, like the living world, derive their creative forces from perpetual solar income. Incorporate the energy efficiently and safely for responsible use.

8. **Understand the limitations of design.** No human creation lasts forever and design does not solve all problems. Those who create and plan should practice humility in the face of nature. Treat nature as a model and mentor, not an inconvenience to be evaded or controlled.

9. **Seek constant improvement by the sharing of knowledge.** Encourage direct and open communication between colleagues, patrons, manufacturers and users to link long term sustainable considerations with ethical responsibility, and re-establish the integral relationship between natural processes and human activity.
design team and an enlightened developer – as evidenced by Los Vecinos, a net zero energy, LEED Platinum affordable housing development. Integrating environmental responsibility, economic stability, and social benefit, this and other green affordable housing projects serve as microcosms of sustainability.

But a focus on the individual building is limiting, in terms of physical scale, the degree of impact, and the breadth of opportunity it affords to discuss neighborhood and regional infrastructure, connections to open space, and opportunities to share resources across sites. It again became evident that for the ambition and impact to measure up to the problem, the scale needed to be at least at the neighborhood, and ideally, the city itself. Application of the ecological footprint methodology to cities like London and Santa Monica helped clarify the extent of the current situation and develop more targeted strategies for increasing efficiency and reducing waste but not as a method for directing urban transformation.

So, how do you design a city like an ecosystem? What is the right benchmark for a sustainable city? How do you integrate the many components of urbanism to generate the synergies necessary to create a sustainable place? Some recent attempts to answer these questions are not at the city scale but instead focus on the neighborhood, district, or corridor as an appropriate place of intervention. The Hammarby Sjöstad, the transformation of former industrial harbor and boat yard into a neighborhood for 20,000 residents.
offers an example of how ecology can be applied to planning at a large scale. The initial design emerged from application of the four Natural Step system principles, and was further articulated through urban ecological principles of closing loops, aligning sources and sinks, and making the most out of both natural and man-made fluxes and flows.

Equally inspiring is the plan for the Lloyd Crossing neighborhood in Portland, Oregon. Asking a simple question, “Sustainable compared to what?” the determination was made that a truly useful reference point for the proposed green redevelopment plan was not existing conditions, or even current code, but something much more ambitious. The decision was made to use the original arboreal forest as the benchmark and compare the projected results of the new plan to the forest’s ability to capture water, solar energy, and carbon dioxide, and to provide for biodiversity.

More recently, the just completed LEED for Neighborhood Development standards provide one template for identifying how neighborhoods can be designed, and redesigned, to incorporate both environmental and societal benefits. The emphasis on walkability and pedestrian and human scale within the context of a green rating system has the potential to transform, over time, urban neighborhoods as large as the Cornfields specific plan area northeast of downtown Los Angeles, into a very different place while maintaining respect for humans and nature and their

### Pre-development Metrics™: Baseline Concept

To measure the success of sustainable strategies at the urban neighborhood scale, the Plan creates the concept of Pre-development Metrics™. Pre-development Metrics™ allow progress to be measured towards the goal of living within the constraints of natural forces within a site or neighborhood. The plan establishes baseline environmental metrics that assume a pre-development site condition approximating that of a mature mixed-conifer forest.

In its pre-development condition, the 54-acre study area generated the following metrics:

**Habitat**
- 50 percent tree cover
- Broad diversity of wildlife species

**Water (per year)**
- 64 million gallons of total precipitation over study area
- 19.2 million gallons of stormwater runoff
- 32 million gallons of groundwater recharge
- 9.6 million gallons of transpiration
- 3.2 million gallons of evaporation

**Solar Energy (per year)**
- 161 million kWh incident on site
- 8 million kWh used by photosynthesis
- 153 million kWh reflected/absorbed/re-radiated

**Carbon Balance (per year)**
- 681 tons of CO2 used
- 495 tons of oxygen released
- 180 tons of carbon fixed as biomass

These metrics are used as benchmarks to measure the success of the recommended environmental strategies in each of the above areas.
interdependency. LEED-ND is also adding new breadth to the discussions within the green building community – not coincidentally, the words “community” and “social equity” were added to the mission of the United States Green Building Council in 2008.

With these precedents in mind, the objective of the Green Urbanism Leadership Summit was to unify the transformational ideas and tools of intervention that are needed to create a new type of urbanism; a green urbanism that can reconnect humans to nature, support a robust post-carbon economy, promote fairness among species, build social, economic, and natural capital, and be a place of joy, wonder, and fulfillment, in the historic spirit of cities as sources of innovation.
Outcomes and Ideas

Though the original plan of emerging after two days with a concise set of green urbanism principles was not realized, there were, nonetheless, many moments of inspiration, epiphany, and collective agreement on the overarching issues that make up and surround green urbanism. We decided against trying to synthesize and summarize the many compelling statements into a cohesive narrative, instead choosing to present the most representative, unexpected, intriguing, and inspiring statements made during the Summit in a largely unedited format and loosely organized across several thematic areas. The “word cloud” presented above, and based on the frequency that various words were mentioned in notes taken during the Summit, provides an impressionistic snapshot of the subjects and themes discussed.

Two larger themes do come forward. Roughly half of the statements are about what is needed – the reconnection of humans and nature for example. The bulk of the other statements are about what to do – the built environment as a pathway to a post-carbon future. Inherent in both is a sense that there is no time to waste. Yes, we need better data so we can develop more precise and effective strategies. But we also have many tools already at our disposal that can be put to use immediately.

Beyond these thematic areas, there was a clear sense that as we go about creating green urbanism places, tomorrow will be much different than today. Designing a city, neighborhood, component of infrastructure, or even a building based on today’s environmental and ecological conditions is shortsighted, perhaps fatally so. With shifting environmental qualities, a changing economy, and ongoing challenges in ensuring fairness and equity, for green urbanism to be relevant, it must be multi-faceted, nimble, and responsive to the understanding that the questions that seem hard today will only be more challenging in the years ahead.
Reconnection

• We need to redefine “nature” as a place where we live.

• We don’t get to sometimes be a part of the planet and sometimes not. “Man vs. Nature” doesn’t make sense. We need to define how we are a part of nature. Co-existence not control.

• We need intimate awareness of how neighborhoods connect to the global scale.

• A part of reconnecting is helping people connect from the local level to the global level.

• Connections cannot take place unless every individual understands his/her impact.

• Change comes from practice. Change is bidirectional. Change requires: first knowledge, then change in attitudes, then in beliefs, and finally behavior.
Capital

- True sustainability must equally value social, economic, and environmental capital.

- A sustainable city should preserve and protect its economic, social, and natural capital, promote quality of access to goods and abide by a principle of self-determination for communities to embrace their own vision of the best combination of those goods, toward the goal of achieving equitable well-being.

- All public investment shall increase the city’s natural capital.

- Equity is a vehicle and a right through which we protect, maintain and regenerate our urban natural capital.
Equity & Access

- We have to be careful in thinking through what green policies/ideas may mean for the people who are actually in places. We might wish for fewer people in places, but they are there. We have to be sensitive to the implications for the people who are actually living in these places.

- Current public processes do not effectively incorporate the voices and desires of the poor into the planning process.

- The poor live in areas most vulnerable to climate change but have least access to retrofit resources.

- Natural resources in poor areas are undervalued and maintained and as a result are not used for promoting sustainable life systems including: alternative transportation, education, and recreation, which furthers disparity. Environmentalism is not a priority because of inability to meet basic needs.

- Cities can nibble at the fringes of poverty. This is a federal issue at one level, it is a global issue at another. There is going to be a dramatic redistribution of wealth in a post-carbon world.

- As humans transform the urban landscape they should create more ecological capacity than they degrade.
Post-Carbon

• Cities consume too much non-renewable energy, exacerbating the climate crisis and resulting in unhealthy pollution, waste and economic cost.

• Buildings should promote and enable a transition to the post-carbon city.

• New paradigms of community and mixed use are necessary. The traditional mixed use recipe is just the tip of the iceberg.

• In the post-carbon city, buildings must be more than merely aesthetic, they must be more strategic. Instead of producing projects that are “done” the minute they are finished, build them as buildings that are designed to be slowly built over time.

• Planners and developers have an important role in the post-carbon city, too.

• Buildings should be more strategic, offering new ways of staging processes toward reengaging a long view of urbanism.

• In the post-carbon city, there must be a greater willingness on the part of architects for interdisciplinary integration.

• Prices should tell the truth.

• Transportation strategies should promote choice.

• Leave room for serendipity / “happy accidents.”
Localism

- While recognizing their interdependence, cities and rural regions must be self-sufficient enough to minimize mutual exploitation OR to maximize mutual benefits.

- Minimize throughputs of energy and materials by maximizing efficiency and increasing local sufficiency. Revitalize natural systems in city to reduce rural impacts of cities.

- The city must reduce its exploitation of declining rural resources and must itself become more self-sufficient in the production of goods, food, energy and natural resources.

- The country depends on the city, as well. Clean water in the city depends on keeping water clean in rural areas. So green urbanism depends on these connections. The city takes most of the pollution damage from industry that benefits everyone, including rural areas.

- Producing and recycling locally. It isn’t about making more disposable products, but focusing on remanufacturing. Some materials are region specific, though.
Infrastructure

- Infrastructure must be designed in a way that nurtures life.

- Infrastructure is the nexus of thinking about green urbanism. It is the core and the heart of the concept. Streets, waterways, open spaces, schools, etc.

- We need to move thinking about infrastructure away from the sanitary city model to the sustainable city model.

- Agencies that own the infrastructure have to be convinced. That’s 30% of the city that knits the whole thing together. The staff of agencies are equally if not more important than the political forces.

- The idea of the regional carrying capacity is how much water do you have and what is the consumption of the population that is there. It isn’t sexy, but if we don’t measure it, we’ll never know how far we can go.

- The beauty and poetry of water can coexist with the metrics and measures of resource management.

- Water is two parts hydrogen, one part oxygen with an unknown third element. There is an element of poetry in water.
There has to be a compelling argument for the benefit of green urbanism to the human race and how this expansion of connection to nature in the built environment actually fosters things that people care about (health, wellbeing, etc.).

Mental health benefits of green urbanism are more difficult to convey.

People want facts but not all data lights people up. Not necessarily gallons of water in a cistern, but the number of kids from local schools that come to see it.

Exploit public interest in image to re-imagine and “sell” what sustainable buildings and infrastructure might look like.

We have to sell green urbanism to people largely through stories.

What is the value added for stating humans need to have contact with natural systems? This is a very American-centric way of looking at things. We are animals. To say that we need nature is weird; we are nature. We have to be more careful about assumptions.

Most people think green urbanism means some kind of sacrifice. So we need first instill the values of green urbanism in communities.
The Summit participants affirmed that green urbanism concepts and practices should quickly make their way into the thinking and practices of designers, decision makers, government officials, developers, and non-profit organizations. With the majority of the US and world population now urban, the city has become the dominant human habitat. So if humans are to find a way to survive, and thrive, in a way that respects the natural limits of the planet and the rights of other species, those solutions must inherently be urban in focus.

Also made clear was that another set of principles, no matter how well written, would not be green urbanism’s catalytic element. In fact the Hannover Principles, generally, seem to work just fine in inspiring a different, greener, urban dialogue. The urgency expressed regarding putting green urbanism into practice, combined with the need to be relevant in the face of changing environmental, economic, and social factors, can be summarized as follows:

**Climate change will be a long-term condition**
The persistence of most greenhouse gases and the high likelihood that changes related to the climate – temperature, precipitation, species loss or migration, frequency and intensity of weather – are inevitable and ongoing, means that the discussion must shift from a singular focus on slowing the rate of climate change toward developing a thoughtful and realistic combination of mitigation and adaptation strategies.

**Economic processes need to be localized**
An economy based on the global manufacturing, distribution, marketing, and financing of products with short life spans, is vulnerable and produces economic inequities. The fundamentals of the economy must shift from spending to investing and to more local processes of making, growing, and fixing.

**Equity is fundamental to creating green cities**
The persistent lack of equity is both an outcome and a cause of unsustainable practices. Addressing equity must advance beyond minimizing the injustice of disproportionate exposure to pollutants and environmental hazards, and incorporate providing equal access to the creation and enjoyment of environmental benefits.

Finally, is the realization that, for the most part, we are blessed with thoughtful guidance on how to think about and design for the integration of human and natural needs and processes in the city. For the proposed solution to measure up to the scale of the problem, the challenge is to think broadly, boldly, and at the time scale of nature and to continually ask the following question:

**How is the way we are creating neighborhoods and cities increasing:**
- natural capital
- social equity
- economic resiliency and stability
- reconnection of humans and nature

What’s Next?
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Global Green USA is a national 501(c)(3) non-profit organization founded by President Mikhail S. Gorbachev. Headquartered in Santa Monica, California, Global Green works in cooperation with government, industry, and individuals to facilitate practical changes that achieve goals in resource efficiency and sustainability. The organization has been working on green building issues since 1996. From 2000 to 2003 Global Green was a member of the United States Green Building Council (USGBC) Board of Directors. Learn more at www.globalgreen.org.

Text and graphics by Ted Bardacke, Chelina Odbert, Troy Simpson, and Walker Wells.

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