Citystates II
The Case for Corporate Leadership in Urban Sustainability

SustainAbility

Sponsored By:

CdR ADVISORS

Contents

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Foreword
SustainAbility

Daunting challenges – from climate change to food and water security, from nutrition and public health to inequality and social exclusion – confront global cities today. But an exciting range of solutions – from distributed power generation and multi-modal transportation networks to compact development, urban farming and smart cities – is emerging also. Bringing these and other innovations to scale will be crucial for ensuring both the future of individual cities and broader sustainable development.

Getting there will require engaged effort by city governments, the private sector, NGOs, community organizations, universities and citizens. Leaders in these groups are already collaborating with one another in key cities around the world. However, given the pace and scale of change required, what is happening so far is only the beginning.

SustainAbility is focused on the role of the private sector in sustainable development. We believe that aligning the sustainability efforts of global companies and cities might bring unique benefits for both. For cities: the chance to extend their reach through a cadre of highly focused, influential partners capable of innovating and mobilizing others. For companies: opportunities to deepen relationships with customers and stakeholders, to experiment with radically new products, services and business models, and to extend and enhance their positive environmental and social impacts.

This second report in our Citystates series explores the opportunity side of this agenda, focusing especially on the case for more companies to take a bolder leadership stance, and providing insight and tools to further accelerate activity in this arena.

We thank our sponsors and partners, colleagues and other advisors, and especially the many experts who generously shared their time and insight to shape our thinking. And, as ever, we welcome your feedback and further thoughts.

For information and feedback, please contact **guenther@sustainability.com**

Chris Guenther
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Associate

Foreword

Royal Dutch Shell

The urban footprint of the world is changing faster than it has ever done before. Already home to more than half the world's population, cities are growing at a rate of around 1.4 million residents per week. The challenges that this presents in terms of demand for food, energy and water—what Shell refers to as the Stress Nexus—has generated more systemic thinking for us around the actions needed at a city level to provide and manage transportation, water, waste, power and other services. It has also brought into focus the benefits that can come from urbanization around innovation and entrepreneurship, as well as collaboration between cities, businesses and other civil society partners. Well designed and managed cities can bring balance in favour of resource efficiency and sustainability instead of environmental degradation, economic prosperity and social well-being as opposed to social stress and poverty.

Shell's interest in urbanization stems from building and applying scenarios for more than 40 years. In 2013, we published the New Lens Scenarios and in 2014 a supplement entitled *New Lenses on Future Cities*. In 2013 and 2015, we convened multi-stakeholder dialogues called Powering Progress Together around urban nexus themes in Houston and Detroit. We are also working directly with city authorities and stakeholders in India, Philippines and Indonesia to identify major urban infrastructure and resilience challenges and co-create sustainable solutions.

Shell's exploration of the challenges and opportunities of this urban, stress nexus agenda has benefited from SustainAbility's expertise as illustrated by their original 2012 report *Citystates: How cities are vital to the future of sustainability*. Their creative collaboration helped to shape our dialogue around the pathways for managing the stress nexus in Houston and, more recently our work in Detroit. We are pleased to partner with SustainAbility in *Citystates II*, their new white paper, which maps out a route for business to be there, helping to drive the urban sustainability agenda forward.

J. Ashley Nixon, Ph.D
NGO & Stakeholder Relations Manager, Americas
Royal Dutch Shell

Foreword

CdR Advisors

Why would a small, financial boutique sponsor a report on sustainability and future cities? Because we are the 70% (that will live in an urban environment by 2050). We work in London, Geneva and Dubai. Three cities with three very different, though equally proud, histories. We feel a sense of duty to each of them. They have each welcomed us and our business. We want them to thrive. Because if they do, our chances improve too.

The report states that "cities are moving to the forefront of the sustainability dialogue," driven by the extreme concentrations of people and the extreme diversity of wealth, from favelas to Silicon Valleys. This is the "urban century."

But wasn't it always so? Dimly remembered history books. Ur, Rome, Carthage, Sparta, Athens, Florence, Venice. Cities, whether sovereign or merely powerful have played a role as catalyst to change throughout time. That cities would reassume this function at a time of rapid social and technological change is part of the order of human affairs.

Our biggest societal challenge is to turn our gaze towards the future. And this runs against the strongest force in the world today: the "now." The immediacy of social media and the focus on performance today is "mining the future."

So, why (again) would we sponsor this report? Because the families and institutions who we advise wrestle with exactly the same concerns. Explicitly or implicitly, their concerns are "future generations." Emphatically not "now."

And maybe long-term problems are simply beyond the power (or mandate) of continents and beyond the power of countries' governments to solve. After all, a four -or five-year presidential term is no time at all. Maybe the best bet is a unit of government with which 70% of us are intimately familiar, which touches our daily life and in which we feel a daily sense of pride: our cities.

Steve Smith
CdR Advisors

Executive Summary

There is an urgent need, and a huge opportunity, for local and international stakeholders to prioritize the sustainability requirements of cities, and with them, broader sustainable development.

Chief among these stakeholders is business, which has both the opportunity and responsibility to take a leadership role (and the chance to reap substantial benefits in the process), and without which cities will be unable to innovate and scale their efforts at nearly the required pace.

Though there are many leading examples of cities and companies working together to accelerate progress on urban sustainability, this agenda is only beginning to enter mainstream business thinking, and overall city-business collaboration remains underdeveloped in aggregate and challenging in practice.

In response, *Citystates II* provides insights and tools to further engage business leaders around the evolving risks and opportunities related to urbanization and sustainability, and to improve companies' ability to engage productively.

Drawing on extensive interviews, desk research and SustainAbility's own experience working with corporate clients on this agenda, the report offers three key tools:

1. **A detailed framework to support the business case** for deeper corporate involvement in cities and with city-based sustainability efforts (summarized on page 33);

2. **Version 1.0 of the Corporate Urban Sustainability Progress™ (CUSP) Maturity Model,** with actionable steps to enhance companies' understanding and ability to realize the opportunities explored in the business case; and,

3. **Identification and discussion of practical issues and potential obstacles** companies, city officials and others must address to work together more effectively.

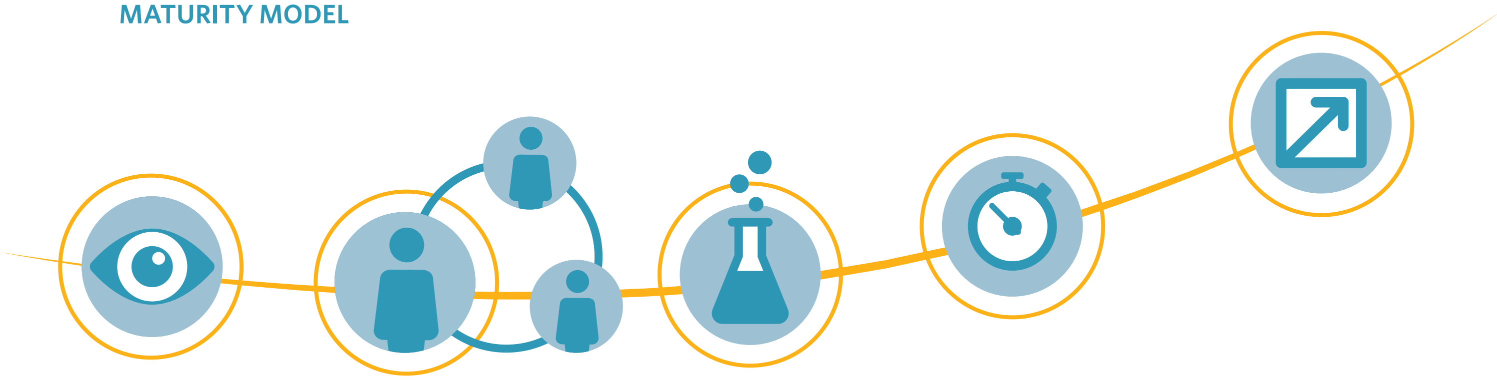
Report In Brief

Today's global companies recognize the growing importance of cities—politically, culturally and economically. They're also beginning to see cities as critical leverage points for sustainable development, and cities themselves are eager for the private sector to play a greater role in their sustainability efforts. As a result, more companies are engaging and innovating for sustainability within and across cities, as are cities with companies. But the potential of such engagement has only begun to be understood, much less realized.

In this light, Citystates II makes the case for even greater corporate leadership—i.e. more industries and companies; longer-term and more ambitious investment; deeper engagement and collaboration with cities and other stakeholders—to drive urban sustainability forward and to share in its benefits. It also considers practical challenges to such leadership and provides guidance to companies seeking to amplify their positive influence on this important agenda.

Finally, to close the report, we explore The Possible City—one notion of the positive urban future we imagine could be created—where whole industries are mobilized to solve pressing urban challenges, where leading companies are gainfully rewarded for their bold collaborations and commitments, and where all city stakeholders combine to create the conditions necessary for flourishing urban populations and broader sustainable development.

THE CORPORATE URBAN SUSTAINABILITY PROGRESS™ (CUSP) MATURITY MODEL



1 RECOGNIZE

Company begins to recognize the connection between urbanization and near and long-term of businesses interests, but lacks the necessary resources and political will to further depen its understanding.

2 ENGAGE

Company analyzes urban trends will specifically impact its industry/ businesses, identifies priority urban markets and stakeholders and receives regular internal/external input on where it can play within cities.

3 PILOT

Company works alone or with partners to develop experimental products, services, initiatives or other urban-inspired activities in order to test the market and its own potential for impact.

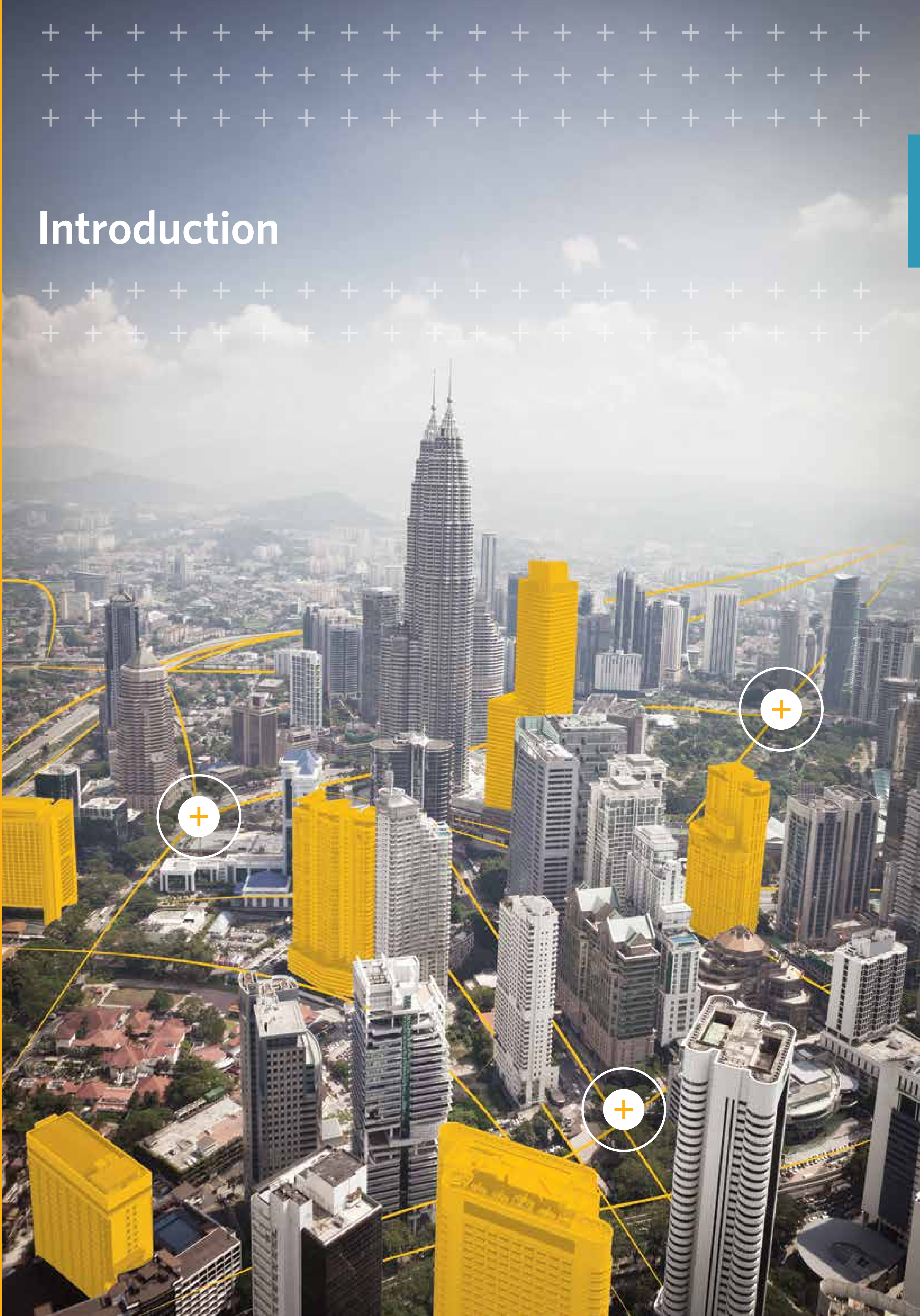
4 OPTIMIZE

Company evaluates pilot(s) in terms of impact and operating model, and liaises across other functional areas internally and priority stakeholders externally to leverage their insights for improvement.

5 SCALE

Company develops and implements growth strategy-within and across cities, unilaterally and through partner channels.

Introduction



Introduction

In 2012, we wrote our first report about the intersection of the urban, corporate and sustainable development agendas, titled *Citystates: How Cities Are Vital to the Future of Sustainability*. Its premise was that while cities are ground zero for a host of interrelated sustainability challenges, they also hold huge potential to lead, particularly by fostering the rapid development and dispersion of new ideas, technologies, behaviors and business models that will be fundamental to long-term sustainable development.

At the time of that first report, it was already clear that cities, in terms of their global importance and influence, were newly ascendant. But our particular interest was in exploring what that might mean for both sustainability generally and for the sustainability efforts of one specific actor within cities: the private sector. Our conclusion was that there was a significant and growing opportunity for the sustainability efforts of cities, major companies and other city-focused stakeholders to be better aligned and to propel one another towards greater scale and impact. And further: that business, cities and other urban stakeholders each had something significant to gain from their more effective alliances with one another.

What We Mean by "Cities"

Though we use the term cities quite generally throughout the report, it is useful to clarify what precisely that means to us.

At the highest level, "cities" refers to the interconnected set of elements and actors that comprise densely populated, rapidly evolving human settlements, including residents, commuters, policymakers and businesses, as well as the way they interact.

We also recognize the importance of the non-human systems, from engineered infrastructure to natural aspects such as watersheds, forests and agricultural land, that contribute to the overall function of the city.

At other points in the report, "city" is used as a shorthand for the collection of public officials, departments and agencies that comprise the city government, for example, where we delve into challenges and opportunities associated with city-business partnerships, "cities" refers quite specifically to municipal governments, rather than to the more encompassing notion of the city above.

Finally, we must also acknowledge that the term, especially in the second usage above, has its limits. In some parts of the world, individual cities are not as well defined and/or city governments do not have nearly the same profile or level of influence as they do elsewhere, or they may be less distinguishable from other forms of government (e.g., regional, provincial, national). But even so, many of the issues and insights explored in this report, especially around the power of engaging stakeholders and innovating solutions at the local level, are equally applicable.

"Even where many leading cities and companies are coming together, there are practical challenges to how they can achieve both their individual and shared aims."

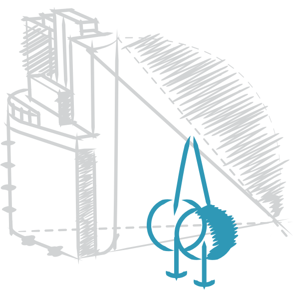
From Theory to Practice

Following that first research project, SustainAbility began consulting with a number of companies that had been grappling with how to make sense of urbanization and related trends, including the many real and potential impacts these forces might have on their business models, sustainability ambitions and stakeholder relationships. In a few cases, this work involved designing and brokering new kinds of dialogue and partnerships between companies and other key urban actors such as local and regional governments, community groups and environmental NGOs.

This window into the how of corporates working with city governments and other urban stakeholders on this new agenda helped elucidate two things. First, it drew our attention to the growing number of urban sustainability initiatives, including those involving business, suggesting there are likely more ambitious initiatives to come. But second, for all that momentum, there remain real gaps in both the nature and degree of engagement by many corporates. Even where many leading cities and companies are coming together, there are practical challenges to how they can achieve both their individual and shared aims.

Citystates II

On this basis, we launched a new project that looks deeper into both the promise and practice of how business is engaging, and offers practical guidance to companies and those seeking to engage them, in order to further advance urban sustainability.



"Throughout the project, we sought to understand business-relevant ideas and opportunities related to some of the world's most pressing challenges in the context of global urbanization."

In addition to our direct experience working with corporate clients on this agenda, we drew from more than 30 formal interviews and many more informal conversations with leaders in business, municipal government and civil society. Interviewees were primarily based in North America and Europe (for full list of interviewees, see Acknowledgements). We also consulted with our sponsors and our broader network of clients, partners and thought leaders focused on cities, and we participated in leading forums like Meeting of the Minds and GreenBiz's VERGE (including its inaugural City Summit in October 2014). Additionally, we conducted desk research to clarify, confirm and, in some cases, challenge what we were hearing in conversation.

Throughout the project, we sought to understand business-relevant ideas and opportunities related to some of the world's most pressing challenges in the context of global urbanization. Some of the experience and ideas we encountered relate to smaller and/or more developed urban centers (e.g. San Francisco, Vancouver) whereas others touch on the larger urban centers in emerging economies (e.g. Beijing, São Paulo). But the premise remains the same regardless of geography: that business has a crucial role to play, and great deal to gain, in delivering on the increasing sustainability needs of the world's cities.

The Report

Citystates II presents the results of this work, including examples from organizations working across the spectrum of urban sustainability and resilience. It also offers two new frameworks to help business leaders enhance their engagement with this agenda.

In **Chapter 1**, we explore and update our view of the opportunity that exists at the intersection of urban and corporate sustainability, and of the fundamental role that the private sector can play to accelerate the idea of the sustainable city.

In **Chapter 2**, we investigate the current state of play, including exciting progress and challenges in the nature and extent of corporate engagement.

With this context in mind, **Chapter 3** presents a detailed framework to support the business case for deeper corporate involvement in cities and with city-based sustainability efforts. This framework can serve as a tool for companies just beginning to think about greater engagement, as well as for those who are already engaged and considering next steps.

Chapter 4 builds further on the business case by outlining version 1.0 of the **Corporate Urban Sustainability Progress™ (CUSP) Maturity Model**, which provides business leaders with actionable steps to enhance their companies' understanding and ability to realize the opportunities explored in Chapter 3.

Recognizing that both the business case and maturity model are intentionally simplified frameworks, **Chapter 5** synthesizes additional insight from our interviewees and our own experience on the practical issues and potential obstacles companies, city officials and others must address to work together more effectively.

Finally, in **Chapter 6**, we explore the characteristics of and pathways to The Possible City, where whole industries are mobilized to solve pressing urban challenges, where leading companies are gainfully rewarded for their bold collaborations and commitments, and where business, cities and other actors combine to create the policies, behaviors and other conditions for flourishing urban populations living within healthy, thriving ecosystems.

1 The Opportunity
Accelerating (Urban) Sustainability

"In the 21st century, cities will increasingly be the frame through which we understand and shape our shared economic, political and cultural circumstances. They will also be ground zero for the collision of economic, environmental and social imperatives that define sustainability. Together, these facts suggest that in proactively addressing the challenge of urban sustainability, business and others have an opportunity to harness the power and positive characteristics of cities to drive sustainability more widely." **SustainAbility, Citystates: How Cities Are Vital to the Future of Sustainability 1**

One of the central premises of SustainAbility's research and work on cities is that urban sustainability is a team sport. You may not live, work or operate in a city, let alone care much about them, but the urban future is increasingly, and simply, our future. The health of our urban environments represents the health of us and by extension, our planet. One figure in particular—70%—illustrates the stakes:

- At least 70% of the world's population will reside in cities by 2050.[2]
- Cities currently account for more than 70% of global GDP.[3]
- Roughly 70% of the world's primary energy is consumed by cities, and 60-80% of global GHG emissions are emitted from them.[4]
- 70% of people live in countries where economic inequality has increased in the last 30 years[5] and, in general, inequality has been found to be strongest in large cities.[6]

Chapter In Brief

- The array of sustainability challenges faced by the world's cities is daunting. Given their enormous concentration and influence, the way cities respond will likely make or break sustainable development as a whole.
- City leaders increasingly recognize the need for engagement and support from a variety of vested stakeholders, especially the private sector. To date though, only a small minority of industries and companies have embraced or acted on this agenda.
- While a strong business case is beginning to emerge, it is equally important to link it with companies' own corporate responsibility or citizenship, or a new idea, we might call corporate *civic responsibility*.
- Ultimately, by bringing all parties together and prioritizing the needs of current and future urban dwellers around the world, there is an opportunity to create fundamental (i.e. systemic) changes that will ensure long-term sustainability both within and beyond individual cities.

"Cities have woken up and realized that we're not going to be the ones solving sustainability issues alone."
Melanie Nutter, Principal, Nutter Associates (and former Director of Environment for the City of San Francisco)

This extraordinary concentration is familiar to municipal governments and other urban stakeholders who have accepted that the world's cities will be (and already are) "first responders" to an array of systemic challenges colliding on their doorsteps. In addition to those alluded to above—i.e. acute population growth, energy security, climate change and inequality—other pressing challenges include over-consumption and waste, water scarcity, access to healthcare and education, over-/under-nutrition and food security, and more. Although these challenges are universal, it is well known that they are most pressing in cities in developing economies, which are often least equipped to deal with them. (For further illustration of the scope of the challenge, see sidebar.)

But accepting the importance of urban sustainability and having the knowledge, capabilities and political will to address the associated challenges are different matters. That is why city leaders increasingly recognize the need for engagement and support from other vested stakeholders. Melanie Nutter, former Director of Environment for the City of San Francisco and now an independent consultant, emphasizes the need for more cross-sector leadership, saying, "Cities have woken up and realized that we're not going to be the ones solving sustainability issues alone."

While these "other stakeholders" include local and international civil society groups (e.g. multilateral development agencies, NGOs, foundations, universities and citizen groups), there is increasing interest and excitement around the role that one actor in particular—the private sector—could play. With their embedded knowledge and talent, extensive reach, capacity for innovation and enormous influence over other key aspects of society, companies—especially the large, mostly global enterprises that dominate the business world today—are seen as critical partners for realizing the transformative progress needed in cities, and by extension, the rest of the world.

In speaking about the Carbon Neutral Cities Alliance (CNCA), a network of global cities committed to reducing carbon emissions by 80% or more by 2050, Johanna Partin, the initiative's director, asserts that, "If these leading cities cannot achieve these aggressive GHG targets, then nobody will be able to achieve them. Working with the private sector will be key because cities only directly influence a small part of the equation."

What We Mean by "Urban Sustainability"

To be clear, when we refer to urban sustainability, we embrace a broad definition that includes resource sustainability (e.g. energy, carbon, water, waste), as well as social and economic dimensions including income inequality, poverty, public health and nutrition. In effect, our definition is the Brundtland Commission's definition of sustainability ("meeting the needs of the present without compromising the ability of future generations to meet their needs") applied to cities.

The Scope of the Urban Sustainability Challenge

POPULATION

- World population continues on a pace to top nine billion by 2050 and the majority of future growth will occur in already densely-populated megacities, primarily in the developing world.
- By 2030, the number of megacities will grow from 24 to 41, and seven of the top ten will be in Asia.[7]
- The annual population increase in six major emerging-market cities—New Delhi and Mumbai (India), Dhaka (Bangladesh), Lagos (Nigeria), Kinshasa (Democratic Republic of Congo) and Karachi (Pakistan)—is greater than the total annual increase in the population of Europe.[8]

INFRASTRUCTURE

- Access to effective infrastructure (energy, water, transport, communications, public space, etc.) is a key driver of urban economic performance and quality of life—"the bedrock of prosperity," according to UN-Habitat—yet many cities struggle to optimize the overall level and focus of their infrastructure investments.[9]
- Recent analysis by the Boston Consulting Group found that of the estimated $60-75 trillion of (primarily urban) infrastructure spending needed between 2013 and 2030, only $50 trillion is likely to materialize under current conditions.[10]
- The World Economic Forum estimates that an additional $700 billion per year beyond business-as-usual infrastructure spending is required to avoid lock-in of carbon-intensive and other unsustainable infrastructure that could undermine long-term economic prosperity.[11]

INEQUALITY

- Studies show inequality is generally greater in cities than in their surrounding countries/regions, in part because cities attract both highest- and lowest-skilled workers, further exacerbating the gap in incomes.[12,13]
- According to UN-Habitat, a quarter of all people live in urban slums, and with the majority of future population growth projected to occur in the poorest cities, inequality is increasingly regarded not just as a pressing moral issue, but also a threat to overall economic productivity in cities.[14]

The following cross-section provides a useful reminder of the unique and growing sustainability imperative as it relates to cities.

CLIMATE CHANGE

- Cities face an array of risks (often felt more acutely than non-urban areas) associated with climate change, including increased coastal flooding due to sea level rise, extreme weather, landslides and resource stress.[15]
- The IPCC 5th Assessment Report notes that two-thirds of cities with populations over 5 million are located in the Low Elevation Coastal Zone, making them vulnerable to climate-driven sea level rise.[16]
- A study led by the World Bank and the OECD found that climate-related flood damage for large coastal cities could cost up to $1 trillion per year in 2050 if they do not shore up their defenses. Not surprisingly, many of the most vulnerable cities are among the world's poorest and fastest growing in the developing world.[17]
- Unprecedented flooding in Thailand, including in industrial zones in Bangkok and other cities, in 2011 resulted in economic damages and losses totaling $45.7 billion, and likely several times that amount due to wider disruptions in the global economy.[18]

WATER

- A key impact linked to food security, climate change and regional stability, and particularly challenging for large cities in the Middle East, Africa, South Asia and Latin America, is water stress.
- It is estimated that 150 million people currently live in cities with perennial water shortage; this number will likely grow to up to one billion by 2050. An additional three billion may experience temporary water shortages for at least one month of every year.[19]
- The current water crisis in São Paulo, Brazil, resulting from a confluence of factors including poor governance, record drought and population growth, provides a stark example of what may become the norm in more cities, including many in the developed world.[20]

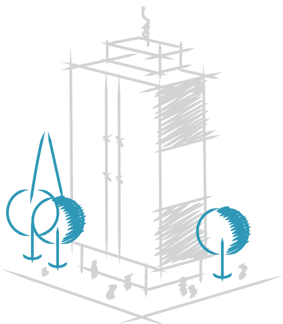
HEALTH

- The OECD estimates the annual number of premature deaths from exposure to particulate matter will more than double from 1.5 million to 3.5 million by 2050, with urban outdoor air pollution, especially in China and India, a leading factor.[21]
- The total cost of health impacts due to air pollution in OECD countries is estimated to be over $1.7 trillion; with half that amount attributed to the impacts of road transportation (2010 numbers). Total costs in China and India were estimated to have been $1.4 trillion and $0.5 trillion, respectively.[22]
- Lack of access to basic infrastructure and services such as water, sanitation, electricity and healthcare in many urban slums further reduces productivity and life expectancy.[23]
- As many as one billion urban dwellers now suffer from obesity-related diseases and the World Health Organization estimates these will be the leading cause of death among poor people by 2030.[24]

Engaging the Private Sector

As researchers and consultants focused on the role and opportunity for business in sustainable development, we have seen many leading companies evolve their understanding of sustainability from "doing less bad" to "fulfilling a social purpose." For many companies, the latter has meant recognizing that their greatest impacts, and by extension their greatest opportunities to create positive impact, are in their extended value chains. This can mean everything from their influence on suppliers to how consumers use and dispose of their product/service, or even reevaluating the very nature of the value their product/service provides.

How has this dovetailed with the imperative of sustainable cities? Thus far, unevenly. The inseparability of our urban future from that of our wider society and environment is a sentiment that has built momentum among a broad base of stakeholders, but much of the private sector has yet to embrace and/or act on it. Among the particular industries that have perked up to these synergies are those involved with infrastructure and land use (e.g. real estate, transportation, electric utilities) and ICT (discussed more in Chapter 2), though it should be said that such engagement is the exception, not the rule, and that these players are viewed primarily (or often only) as project implementers, rather than strategic partners.



"The inseparability of our urban future from that of our wider society and environment is a sentiment that has built momentum among a broad base of stakeholders, but much of the private sector has yet to embrace and/or act on it. "

In parallel, while there are many examples of the private sector supporting community urban development (especially local arts, culture, sports and education), in their home base and in other cities where they have a large presence, most of this activity still comes in the form of philanthropy, often without direct strategic relevance to the business.

In both these instances though are the seeds of how the private sector can and should engage with cities as they navigate this transition to greater sustainability. For starters, the concentration of corporate interest in cities from infrastructure and IT companies speaks to a very real need that these actors have recognized: cities need solutions to the host of sustainable development challenges they're facing, and companies, with their specialized knowledge, capabilities and tools, are natural solution providers.

Given the obvious logic of that connection, it is not difficult to see why the conversation about business interest in sustainable cities continues to be geared primarily toward the marketing of new technology and services. But, in our view, this is too reductionist. In fact, depending on the industry, there are a host of financial and operational motives that demonstrate urban sustainability is key to safeguarding current business models and customers, or simply becoming more resilient to disruptions that the least sustainable cities will be increasingly prone to (discussed more in Chapter 3).

"Cities and other urban stakeholders that want to bring the private sector to the table will need to appeal not only to direct and indirect business motives, but also to business' role as citizens."

"Cities need to see businesses as partners that 'get it,' where 'it' is a catch-all for the idea that while there are no assurances that sustainable cities will be better for the company's bottom line, a seat at the table during a city's transformation and a long-term partnership built on trust will yield a myriad of dividends."

Corporate Civic Responsibility

The available business case arguments, robust as some may be to particular industries, are mostly long-term plays. This suggests that cities and other urban stakeholders that want to bring the private sector to the table will need to appeal not only to direct and indirect business motives, but also to business' role as citizens.

The term "corporate citizenship" has largely been outmoded (viewed as a predecessor to corporate social responsibility, sustainability and resiliency), but, in the context of cities, it still perhaps describes something essential—namely, the obligations and privileges that inhere to companies that are strong members of the community. Perhaps a hybrid term, corporate *civic* responsibility, brings this idea into a more contemporary and suitably urban context.

For the urban sustainability agenda, cities need to see businesses as partners that "get it," where "it" is a catch-all for the idea that while there are no assurances that sustainable cities will be better for the company's bottom line, a seat at the table during a city's transformation and a long-term partnership built on trust will yield a myriad of dividends. As Sascha Haselmayer, Founder and Executive Director of CityMart, an online platform for urban innovation, puts it, cities will increasingly look for business providers that they consider "partners that they can trust to evolve with the changing needs of the city."

Jeremy Bentham, VP of Shell's Global Business Environment and head of its Scenarios team, is a representative of one of these companies that see the benefit in figuring out how his company can accelerate the sustainability and resiliency of cities and create (or adapt) business models to benefit from that transformation. "We're doing business model R&D," he says. "We know that better outcomes in this area are much better for society than worse outcomes and that there's a big pool of value that comes from it. We can't work out in advance what that is—it takes a degree of faith—but in all likelihood, there will be some value for us in the end if we make a contribution."

"This conversation can't just be between government agencies. It will require fundamental, transformative redesign of core urban systems. How much of that does the city actually control? The answer is very little. That's the piece where a strong voice from the private sector is most important, but it's also the fuzziest."
Johanna Partin, **Director, Carbon Neutral Cities Alliance (CNCA) for the Urban Sustainability Directors Network (USDN)**

Creating Systems Change

While Bentham is optimistic, his comment explicitly acknowledges the ambiguity of the challenge. Yes, we want good outcomes, but how should we pursue them, and what are the precise roles for everyone involved? Uncertainty, complexity, long timeframes—these factors underscore that creating a sustainable city is a classic systems challenge, which highlights the need for all players, including the private sector, to work together towards solutions.

In the past few years, "systems thinking," "system-changing collaboration" and other related ideas have become de rigueur among sustainability thought leaders. Together, they represent a growing recognition of the interrelatedness of key issues and impacts—environmental, social and economic—as well as the need to speed up and/or multiply the impact of particular interventions. Yet even while more of us embrace the promise of a truly systems-oriented approach, it is still often difficult to translate the theory into practice.

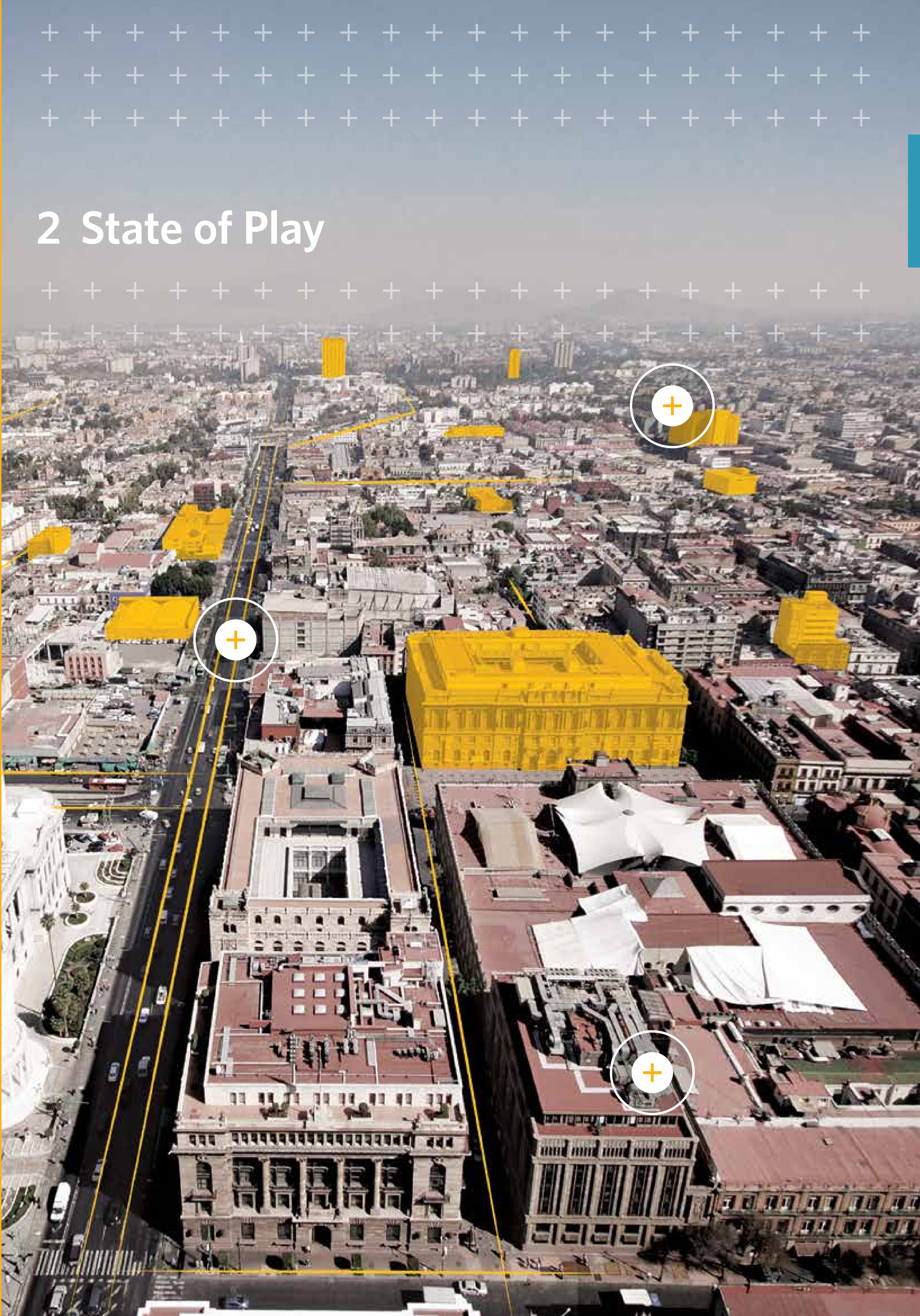
This is one reason why cities hold such potential. First, each city is itself a system—complex and dynamic, with emergent properties shaped by the actions and interactions of many different, interconnected elements (e.g. government agencies, schools, businesses, neighborhoods and families)—yet with a nature and scale that make it easier to identify and pursue multidimensional solutions. Second, each city is an element in a larger system, and therefore a potential leverage point for creating and scaling impact on sustainability writ large.

The opportunity then is what can be achieved by all parties coming together around key levers of change within the city: infrastructure, technology, buildings, information and material flows, lifestyles and behaviors, policies, incentives—all with the idea of co-creating new markets to promote long-term economic, social and environmental benefits.

Transforming cities and markets is no small feat though, which Johanna Partin realizes: "We've done the low-hanging fruit (though it may not have felt very low-hanging at the time). This conversation can't just be between government agencies. It will require fundamental, transformative redesign of core urban systems. How much of that does the city actually control? The answer is very little. That's the piece where a strong voice from the private sector is most important, but it's also the fuzziest."

CROSSRAIL
London's Crossrail project is one of Europe's largest ongoing infrastructure construction projects and will transform commuter access to key parts of the city.

2 State of Play



In Chapter 1, we set out the view that business, together with city government and other stakeholders, has a critical role to play to accelerate urban sustainability and resilience, and with it, broader progress on sustainable development. This requires not only that business understand better how its own future is tied up with cities, but also that it works proactively to ensure that that future is a positive one. Here we ask: How is this going so far?

To explore this question, we asked interviewees how well they thought major companies are recognizing and engaging with both the business and sustainability implications of an urbanizing world, and what that might mean vis-à-vis the effort to advance companies' and cities' progress on sustainable development.

What we heard is that, despite encouraging progress among a vanguard of companies, this agenda has hardly begun to enter mainstream business thinking. Furthermore, behind the excitement and veneer of the many initiatives we do see, there seem to be real challenges around how to balance competing interests and priorities, and how to effectively collaborate, not only in name but also in deed.

In this chapter, we look at several key themes of those discussions in order to set the stage for exploring how companies can become more engaged and effective going forward.

Chapter In Brief

- While interest and activity related to sustainable cities has grown substantially in recent years, and while a vanguard of companies are getting more directly involved, this agenda is only beginning to enter mainstream business thinking.
- For the moment, effort seems strongest around the concept of smart cities, which highlights the role that advanced ICT can play to increase efficiency and effectiveness of urban infrastructure and services. However, we caution that too much emphasis on technology may draw attention away from other critical levers of change.
- Inequality both within and between cities highlights potential discontinuities in the application of urban sustainability and underscores the need to recognize and enhance positive linkages among all three of its dimensions—economic, social and environmental.
- Though there are many examples of cities and companies working together in innovative ways to accelerate progress on urban sustainability, overall city-business collaboration remains somewhat underdeveloped relative to the challenge, which is a circumstance this report is designed to address.

"Despite considerable buzz, the kind of deep business engagement highlighted as necessary to not just sustain, but to double down on early sustainability gains of leading cities—partnerships, initiatives and/or new business models created to address the challenges—are still mostly the exception rather than the rule."

HURRICANE SANDY AFTERMATH
It is often only in the aftermath of challenging events, such as hurricane Sandy, which hit New York in 2012, that many companies are compelled to rethink their operations.

Early Days

Despite considerable buzz, the kind of deep business engagement highlighted as necessary to not just sustain, but to double down on early sustainability gains of leading cities—partnerships, initiatives and/or new business models created to address the challenges—are mostly the exception rather than the rule. Even among potentially promising programs, the majority are still in the very early stages of their development.

Perhaps one reason for this is that there is no single idea of what precisely this agenda is and what it isn't, or by extension, what roles are necessary for different industries and companies to play in advancing it. This is underscored by the diagram on pages 24–25, which illustrates the current, semi-chaotic landscape of different efforts—some competing, some complementary—to envision and propel forward various aspects of the sustainability agenda in an urban context.

On one hand, we shouldn't really want or expect all of this to become a single, unified agenda. On the other hand, as soon as we recognize that sustainability—in the city or otherwise—is a fundamentally a system challenge, and that this necessarily entails addressing many different issues and elements that are all in dynamic relationship with one another, then there is a need to begin to draw more of these threads together.

At present these movements offer different points of entry or focus for industries and companies, allowing them to understand and act on risks and opportunities associated with their businesses. Yet the playing field has perhaps not yet been defined well enough that they can see themselves as part of the broader movement defined in Chapter 1.

Another related challenge is that many companies are reluctant to embrace, much less lead, a significant change agenda like this one. Asked if the private sector is inclined to recognize and react to the risks and opportunities of urbanization, Ron Gonen, Founder and CEO of the Closed Loop Fund and former Deputy Commissioner of New York City's Department of Sanitation, remarked bluntly, "Most businesses are just trying to get the next customer."

He continued, "When you have these massive players, they're engaged in the status quo," unless one of three things is happening: "(1) a Hurricane Sandy event or something like blackouts that force companies to rethink the way they operate; (2) a powerful leader like a Mayor Bloomberg of New York City, or similar leadership within a company, that pushed government or their industry towards a future vision; or (3) courageous and entrepreneurial innovation—a Solar City, Tesla, Sungevity—that creeps up on the incumbents."

At the same time, even where there is an aspiration to lead, it isn't necessarily clear how companies can best intervene. The Resilience Action Initiative (RAI), a private-sector consortium that counts cities as a primary setting for interventions, was launched in 2012, perhaps not coincidentally following Hurricane Sandy, when the topic of resilience was suddenly at or near the top of government, NGO and business leaders' agendas. Launched by the CEOs of Shell, IBM, Dow, Yara, Unilever

City Movements

A testament to the growing influence and import of cities – both generally and in terms of sustainability – is that there are so many disparate efforts to use them to amplify notions of what a better future could or should look like. The challenge

and opportunity will be in how all these different movements become integrated and define a more cohesive vision of sustainable cities that business and others can work collaboratively to implement.

"Asked if the private sector is inclined to recognize and react to the risks and opportunities of urbanization, Ron Gonen, Founder and CEO of the Closed Loop Fund and former Deputy Commissioner of New York City's Department of Sanitation, remarked bluntly, 'Most businesses are just trying to get the next customer.'"

and others, the alliance piloted business-led interventions to scale resiliency in cities including Da Nang, Houston, Rotterdam and Singapore.

When we spoke with Jeremy Bentham, Shell's VP of Business Environment and one of the company's representatives for RAI, he explained that part of the premise behind RAI was that these experiments were the most promising way to gather data about how business could be engaged at this stage. "We can't do desk analysis on where business, policymakers and NGOs can best work together in cities. We can't conclude about the best ways to do it yet. This is exploratory."

Indeed, "exploratory" is the operative word. Many of the promising multi-party initiatives to accelerate urban sustainability and resilience, like the Closed Loop Fund and RAI, are admittedly just early-stage explorations into feasibility, impact and/or profitability (or "self-sufficiency").

Additionally, in the course of this research and broader work on the topic, we spoke to many companies across multiple industries that, even if they were beginning to think or experiment around the edges of this opportunity, were not ready to publicize their work. Why? There is no universal answer, but we believe that this dynamic results in part from a still opaque business case for engaging deeply with and through cities on sustainability, which is partly why the area of city-business collaboration that has best focused the attention of many vested stakeholders thus far has been smart cities.

Too Smart for Their Own Good?

According to Melanie Nutter, former Director of Environment of the City of San Francisco and a lead consultant on a USDN smart cities project group that crafted this definition, "Smart cities use advanced ICT to collect, communicate, and analyze data to improve the design and operations of a city's core systems, infrastructure and programs, as well as citizen engagement, for greater efficiency and effectiveness, thus improving the city's sustainability, resilience, bottom line and quality of life." However, even as USDN and others help to bring added specificity and rigor to this emerging field, others have expressed uneasiness about how much it has come to influence conversations about urban sustainability generally. One expert we spoke to observed dryly that "smart cities means everything and nothing" and that enthusiasm for the idea may be bordering on the excessive.

"That a collection of the world's largest companies is investing in understanding the needs of cities before an immediate, or at least scalable, business case has emerged is undoubtedly a good thing. However, there may also be a missed opportunity, in that this agenda for cities is currently being defined too narrowly by those at this techno-centric frontier."

While the notion of technological innovation to remake cities and city services—optimizing energy, water, waste and other urban resources in the process—represents a potentially promising means to accelerate sustainability, it is not the only tool and certainly not the only pathway to more sustainable, resilient cities. And yet, much of the current dialogue between business and city officials is preoccupied with what technology can make possible. Peruse the agenda or attend a session of a cities-themed conference where business is present and the word that invariably is mentioned, discussed, dissected and, depending on the nature of the event, overwhelmingly hailed or critiqued, is "smart."

> "It must be remembered that sustainable cities of the future will rely as much on non-technological tools (e.g. recognition and calibration of risk, exploration of new near and long-term business models, and a deeper commitment to urban stakeholder engagement) as on technological ones."

This is no accident. The smart cities sector, made up of an "emerging collection of technologies cutting across many industries, [including] transportation and utility infrastructure, network equipment, telecom and wireless, data analytics, electronics equipment, and software applications," [25] has invested significantly in articulating and promoting its own potential. With post-recession cash reserves mounting for many multinational companies, new and promising industries like smart cities have certainly benefited. Remarks Mathieu Lefevre, Executive Director of the Paris-based New Cities Foundation, "ICT companies have a lot more money to invest and have used it to try to explore cities as a new territory, with some success."

That a collection of the world's largest companies is investing in understanding the needs of cities before an immediate, or at least scalable, business case has emerged is undoubtedly a good thing. However, there may also be a missed opportunity, in that this agenda for cities is currently being defined too narrowly by those at this techno-centric frontier.

If one believes in the broader potential nexus between cities, sustainability and business that we described in Chapter 1, then it must be remembered that sustainable cities of the future will rely as much on non-technological tools (e.g. recognition and calibration of risk, exploration of new near and long-term business models, and a deeper commitment to urban stakeholder engagement) as technological ones. In other words, the focus invested in a "techno-utopia" alone is at very least a concern which, at worst, risks drowning out the possibility of a broader solution set before it even has the chance to develop.

Are Sustainable Cities for Everyone?

For whom are the city and urban life being improved? While the emphasis on technology as the key pathway to more sustainable, resilient cities can be exclusionary—i.e. potentially more the domain of wealthier elites and the most digitally savvy citizen-consumers—there is a related and even more fundamental question to be raised: How do we ensure the larger project of sustainable cities doesn't leave a substantial proportion of the urban population behind?

> "As inequality becomes more extreme, including in many of the world's most prosperous cities, and as it becomes harder to break the "rich get richer, poor get poorer" dynamic that is endemic in most market economies today, the more it demands attention and systemic action."

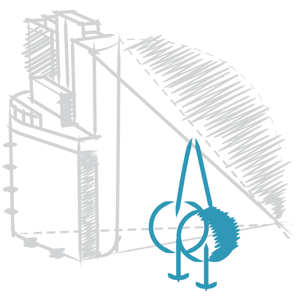
It is a challenging question for at least two reasons. The first is that economic inequality, which is currently a growing problem nearly everywhere in the world, is frequently worst in cities. Therefore, it is even more necessary to ensure that sustainability efforts there take a holistic view of economic and social, as well as environmental, factors. The second reason is that many of the world's largest and poorest cities, which are arguably most in need of what enhanced sustainability and resilience have to offer, struggle to implement even the most basic changes to realize it, and may end up trapped in a permanent cycle of inadequate reform and distress.

That inequality exists within cities is not surprising, nor is it by itself a significant problem, according to urban economist Edward Glaeser. In his well-known book, Triumph of the City, he argues that cities do not make people poor. Rather, they attract poor people (and rich people, too) because of the promise of enhanced economic opportunity and other advantages of urban life. He writes, "The flow of less advantaged people from Rio to Rotterdam demonstrates urban strength, not weakness."[26] However, as inequality becomes more extreme, including in many of the world's most prosperous cities, and as it becomes harder to break the "rich get richer, poor get poorer" dynamic that is endemic in most market economies today, the more it demands attention and systemic action.

The problem for advocates of urban sustainability though is that it can sometimes seem like inequality isn't among their top concerns. Especially in U.S. cities like San Francisco and New York, which are routinely recognized for their progressive leadership and sustainability-focused innovation, inequality is moving from bad to worse and there is a sense that much of the effort associated with sustainability serves mainly to enhance the lives of the wealthier creative class or the One Percent, rather than everyday working people or the very poor. Also, the fact that growing prosperity and competition for housing in these and other global cities (e.g. London, Paris, Tokyo, Hong Kong) is leading to mass evictions and other forms of displacement (e.g. social, cultural, economic) of the urban poor only reinforces this view.

Meanwhile, it must be acknowledged that at the global level, conversations and efforts concerning cities' long-term sustainability are considerably more mature in the developed world. For example, a recent benchmark study of 50 global cities found that nearly all of the top performers were well-established European and a few advanced Asian cities (e.g. Frankfurt, London, Copenhagen, Seoul, Singapore), while the bottom half of the list composed almost exclusively of emerging market cities in Central and South America, Asia the Middle East and Africa (e.g. Nairobi, New Delhi, Wuhan, Jakarta, Rio de Janeiro). [27]

It is neither surprising nor especially problematic that more politically stable, prosperous global cities are at the forefront of this movement. Many urban experts expect that a large number of emerging market cities will rapidly develop in the next few decades and eventually exhibit similar performance and characteristics as today's leading cities. And if, in the meantime, those leading cities prove able to rapidly create and export effective solutions to the rest of the world, thereby accelerating this convergence, then all for the good.



"The problem for advocates of urban sustainability though is that it can sometimes seem like inequality isn't among their top concerns."

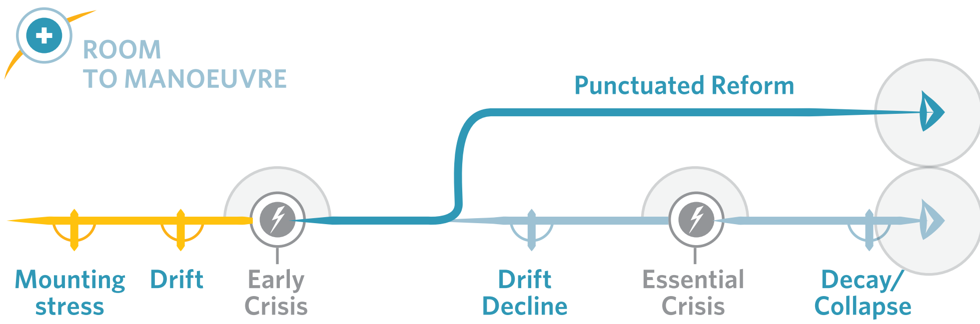
However, as discussed in relation to intra-city inequality above, the tendency for less advantaged communities to become locked in a repetitive or downward spiral of misfortune underscores the risk that some may never quite make the leap to the more sustainable urban future we all want to envision. The potential for this is encapsulated in the two key pathways for future cities highlighted in Royal Dutch Shell's 2014 New Lens Scenarios work, "Room to Manoeuvre" and "Trapped Transition."

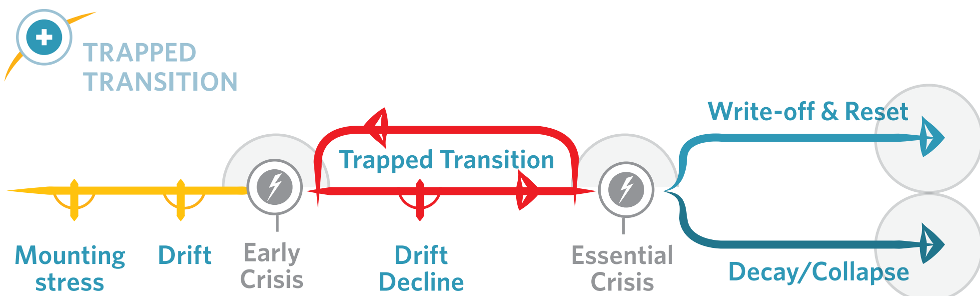
What is crucial is that neither the world as a whole nor the leaders of the most acutely challenged cities fall into the habit of thinking that sustainability can wait until later in their development cycle, or that it is simply a luxury they can't afford. On the contrary, a more balanced approach to development is likely the only way they will make the transition at all—a view that is strongly emphasized in UN-Habitat's most recent State of the World's Cities report, which digs deeply into the issue of urban and global inequality, calling for "a fresh approach to prosperity, one that reaches beyond the sole economic dimension to take in other vital dimensions such as quality of life, infrastructures, equity and environmental sustainability." [28] And more recently, the UN General Assembly's Open Working Group on Sustainable

"What is crucial is that neither the world as a whole nor the leaders of the most acutely challenged cities fall into the habit of thinking that sustainability can wait until later in their development cycle, or that it is simply a luxury they can't afford. On the contrary, a more balanced approach to development is likely the only way they will make the transition at all."

Development Goals (SDGs) has underscored the systemic linkages between urban inequality and sustainability, proposing that one of the much-anticipated new SDGs be to "make cities and human settlements inclusive, safe, resilient and sustainable." [29]

From its start sustainable development has attempted to balance the sometimes-competing priorities of environmental sustainability and equitable development. The project is now being renewed, only this time recognizing that cities are among the most important battlegrounds for these twin challenges. As city officials and other urban stakeholders are tasked with finding creative, collaborative and scalable solutions, a key question is whether leaders in the private sector are prepared—and to what extent they will be called on directly—to help.





"From its start sustainable development has attempted to balance the sometimes-competing priorities of environmental sustainability and equitable development. The project is now being renewed, only this time recognizing that cities are among the most important battlegrounds for these twin challenges."

CHARACTERISTICS OF ROOM TO MANOEUVRE IN CITY DEVELOPMENT:

- Visionary leadership coalitions shape growth
- Authorities foresee stresses and implement integrated land, transport, energy, water and waste planning
- Structural energy effective solutions, including compact city development and public transport
- Knowledge shared and valued

CHARACTERISTICS OF "TRAPPED TRANSITION" IN CITY DEVELOPMENT:

- Patterns of growth are dominated by localised and uncoordinated political and market forces
- Authorities assume problems are too hard to tackle, and solutions to unpopular to implement
- Stresses ignored intil city liveability is threatened and infrastructure is diffciult to re-engineer
- As hoc, individual solutons

Two Plausible Visions of Future Cities
Source: *New Lenses on Future Cities: A New Lens Scenarios* Supplement. Royal Dutch Shell and The Centre for Livable Cities. June 2014.

"While high-profile examples do exist, the overall degree to which companies and cities have jointly engaged this opportunity—in a deep and relational, rather than transactional, way—is still relatively nascent."

"So why the apparent disconnect? One reason may be that the opportunity is still just starting to come into focus—again, the 'early days' point made above—but at the same time, there are certain barriers to collaboration that still need to be overcome."

OLD AND NEW SHANGHAI
The rapid growth in developing cities can lead to intra-city inequality and the risk that some communities may never quite make the leap to a sustainable urban future.

Collaboration Disconnect

In an unprecedented time of collaboration among familiar and unfamiliar partners, within and across sectors, one would expect that collaborations between the two actors many see as most capable of making pragmatic, substantive strides on the sustainability agenda—large corporates and large cities—would be more ambitious in both their number and scope. Yet, while high-profile examples do do exist, the overall degree to which companies and cities have jointly engaged this opportunity—in a deep and relational, rather than transactional, way—is still relatively nascent.

This is particularly surprising when you consider how prolific each group has been in collaborating with its peers. In Citystates, we wrote about this dynamic as it relates to municipal governments, described as "The Collaborative/Competitive City," noting that as much as there is competition between cities for, among other things, talent, capital and companies, there is also a proliferation of city-to-city networks and collaboratives, many of which are focused on sustainable development. And the number of networks and more specifically, the level of activity within them, has only grown since 2012.

As Shaun Abrahamson of Urban.Us, a fund and advisor network for startups solving urban problems, puts it, "Cities talk to each other, that's part of their architecture." Sascha Haselmayer of the global city network Citymart concurs, referencing a survey his organization conducted that showed that "cities only trust each other... even more so, other cities in the same nation." Though he cautioned that while this has clearly been beneficial to sharing proven solutions, there is a potential for insularity. "It's hard to penetrate this community and it may have the inverse impact of preventing new ideas from matriculating further."

Meanwhile, from the corporate perspective, we have observed collaboration flourishing, whether it's company-company, company-NGO or, increasingly multi-party collaborations around systemic challenges. In identifying and examining this increase in collaboration (which we have done as part of another ongoing research project titled *Orchestrating Change*), we can assert that relatively few of these significantly involve or are focused on cities specifically.

So why the apparent disconnect? One reason may be that the opportunity is still just starting to come into focus—again, the "early days" point made above—but at the same time, there are certain barriers to collaboration that still need to be overcome. From what we have observed and heard from interviewees during our research, these range from structural (e.g. misaligned interests/incentives, the lack of an appropriate engagement mechanism) to political (e.g. real or perceived risk of corruption) to reputational (e.g. lack of authenticity, not recognizing the value the other can bring), all of which are themes we will explore further in Chapter 5.

3 Making the Business Case

As corporate sustainability consultants, we are well-versed in the question that often arises when recommending action on a lightly-trodden path that emphasizes broader social and environmental benefits, but that does not have an immediate line of sight to a company's bottom line: what's the business case?

While a significant canon of business case thinking and research for corporate sustainability exists, we are specifically interested in considering and adapting that thinking in relation to the not-yet-fully-realized opportunity discussed in Chapter 1—for the private sector and cities to work together on shared sustainability development priorities.

In the same way that a like-minded community (a coalition of corporates and NGOs, governments and multilaterals, advocates and consultants) built the rationale for corporate interest in the once-nascent sustainable development agenda, we see the need to advance the business case for the urban sustainability agenda today. We must create a common frame and language to demonstrate not only how the private sector is currently engaged, but also how we expect the business case to be bolstered and crystallized in the near future.

In general, we see compelling arguments and examples across three key dimensions of the business case—customers & markets, operations and reputation. And for companies already engaged in sustainability broadly, there is a fourth dimension, which we call sustainability leadership. These are explored in the sections that follow.

Chapter In Brief

- In order to further engage business leaders around the evolving risks and opportunities related to urbanization and sustainability, there is a need to articulate both the current and emerging business case for their companies to respond.
- In response, we provide discussion and illustrative examples across four key dimensions of business interest— financial, operational, reputational and sustainability leadership.
- Examples discussed include energy, automotive and other companies rethinking what urbanization, technology and related trends mean for their traditional business models; a healthcare company beginning to better understand and influence the systemic drivers of illness in urban environments; major retailers' evolving store designs, marketing and sourcing to better connect with and strengthen local communities; and consumer goods companies working to understand and support behavior change as it relates to the life-cycle sustainability of their products.
- The resulting framework (summarized on page 33) can serve as a tool for companies just beginning to think about these opportunities, as well as for those seeking to take their existing efforts to the next level.

CUSTOMERS & MARKETS

New Markets/Customers ("City as Customer")	Responding to cities' increasing investments in new energy, infrastructure, ICT and transportation solutions, and also supporting their transformation through real estate, finance, healthcare, professional services and others.
New Markets/Customers ("City as Enabler")	New businesses and/or business models enabled by unique urban attributes and the preferences of a new wave of urban citizen-consumers.
Safeguarding Current Markets/ Customers	New businesses and/or business models enabled by unique urban attributes and the preferences of a new wave of urban citizen-consumers.

OPERATIONS

Safeguarding Against Disruption	Ensuring security and resilience of direct and indirect business operations from risk of disruption due to natural or man-made disasters, health crises or other sudden events.
Safeguarding Against Expected Change	Adapting to and/or contributing to addressing chronic stresses such as traffic congestion, air and water pollution, and urban inequality
Talent & Innovation	Tapping into and enhancing urban development and associated amenities to aid recruitment and retention and spur innovation
Policy Engagement	Ensuring beneficial engagement and influence to shape policy frameworks aimed at promoting urban sustainability and resilience
Efficiency/Cost Savings	Realizing operational efficiencies and other financial co-benefits associated with cities' sustainability efforts

REPUTATION

Civic Obligation/Pride	Investing and engaging in a city or cities with which the company is closely associated and/or where it has a unique ability to strengthen the urban community
Enhanced Customer Engagement	Deepening and improving relationships with customers through authentic engagement with local stakeholder values and concerns
Being in the Vanguard	Demonstrating forward thinking and innovation by tapping into broader interest and excitement around urban sustainability and resilience

SUSTAINABILITY LEADERSHIP

Tangibility	Exploiting the greater leverage enabled by the growing immediacy of sustainability and resilience challenges in many cities, and by the ability to achieve more concrete progress
Systemic Impact	Acting on the imperative for corporate sustainability efforts to achieve broader, more lasting impact, both by shaping the systems within individual cities and replicating the most promising solutions across them

Customers & Markets

"In terms of direct, commercial risks and opportunities, the imperative for companies can be understood as the need to recognize and capture unique new customers and markets, and/or to evolve with and protect existing ones."

"While there is tremendous emphasis on digital infrastructure, the more traditional "city building" industries—from architecture to engineering, to real estate and transportation—will also face unprecedented challenges and enormous business opportunities in response to the combined effects of growing population, climate change and related trends colliding in cities."

Urbanization and related trends are producing impacts with near and long-term financial implications for business. In terms of direct commercial risks and opportunities (as opposed to indirect value-drivers, which are discussed in subsequent sections), the imperative for companies can be understood as the need to recognize and capture unique new customers and markets, and/or to evolve with and protect existing ones.

New Markets/Customers ("City as Customer")

Perhaps the most straightforward business case around urbanization and the influence of cities in catalyzing sustainability lies in their role as customers for the range of infrastructure and technology solutions that hold promise to address a range of urban issues.

A 2013 Frost & Sullivan analysis estimated "a combined market potential of $1.5 trillion globally for the smart city market in segments of energy, transportation, healthcare, building, infrastructure and governance."[30] While municipal governments will not be the only customers for these services—and what business model(s) are actually viable to source those customers is itself a major challenge—they are nonetheless a hugely influential market for companies exemplified by smart city platforms like Cisco's Internet of Everything, IBM's Smarter Planet, or Intel's IOT Smart City Demonstration Platform. As Mathieu Lefevre, Executive Director of the New Cities Foundation puts it, "As the public sector has become more sophisticated at how to meet their sustainability needs—more efficient, more pragmatic—business has reacted in the hope of making city hall a new customer."

While there is tremendous emphasis on digital infrastructure, the more traditional "city building" industries—from architecture to engineering, to real estate and transportation—will also face unprecedented challenges and enormous business opportunities in response to the combined effects of growing population, climate change and related trends colliding in cities. One oft-cited estimate from the International Council for Local Environmental Initiatives (ICLEI) is that the world will need to build as much urban infrastructure in the next 40 years as it has in the previous 4000.

One example of the potential impact of this is that the U.S.-based industrial and financial conglomerate General Electric expects its share of earnings from its industrial business to grow from 60% to 75% in the next two years, with urban infrastructure opportunities as a significant driver.[31] At a GE event in Hamburg, Germany in May 2014, entitled "Building the Green Cities of the Future," Ferdinando Beccalli-Falco, President and CEO of GE Europe & North Asia, explained the topic's importance, stating, "We have a responsibility and a great opportunity to equip the infrastructures of the world with cleaner, healthier and more efficient systems...and consider it to be our responsibility to enter into partnerships with cities in order to be able to help them master their unique challenges."[32]

Meanwhile, one of GE's competitors, the German conglomerate Siemens, made waves in 2011 when it reorganized itself to create an "Infrastructure & Cities" division, combining such businesses as Transportation & Logistics, Power Grid

Solutions & Products and Building Technologies, where municipal governments and/or affiliated agencies represent a primary customer base. (Siemens' new CEO recently reversed the experiment, partly due to unanticipated changes in the energy market, though the unit did record a €325 million profit before taxes in FY14.[33])

Also, beyond what cities are likely to invest directly in infrastructure and related systems, we can anticipate a variety of ripple effects of thismobilization on other industries including materials, finance, healthcare, professional services and more. Matthew Lynch, former Head of Sustainable Cities at the World Business Council on Sustainable Development (WBCSD) and now Vice President of Global Partnerships and Initiatives at the World Council on City Data, notes that there has been a "shift from a couple of years ago with only traditional technology and infrastructure companies being interested in cities, to a new paradigm where businesses across the spectrum are engaging with the urban agenda, especially as it has been understood how much cities and the growth of the urban middle class are shaping global markets. More sectors are starting to look at this issue in one way or the other."

New Markets/Customers ("City as Enabler")

Of course, not everything needs to be thought of in terms of the direct or indirect impact of municipal procurement. As Shaun Abrahamson of the urban venture capital firm and advisor network Urban.Us puts it, "Cities have a lot of other assets at play that don't involve being the customer."

The most evident example of this is what the growth and ubiquity of the "urban form" is enabling in terms of new business models and businesses. There is already a wave of new startups, as well as incumbent businesses, that are taking advantage of urban environments, scale and density to reach new consumers. For example, the rise of the sharing economy and the appeal of on-demand services have catapulted growth of businesses like Airbnb, Uber and Lyft. Mathieu Lefevre of the New Cities Foundation agrees, noting the "rise of the disruptors" within the urban sustainability scene and describing companies like Uber and Airbnb as "essentially new urban plays."

Together with the success of new urban-inspired business models in hospitality and transportation, there are examples in urban farming (Freight Farms, Bright Farms, Edenworks), cooking (Munchery, Cookapp), logistics (Postmates, Shipp, AmazonFresh, eBayNow), consumer goods (Yerdle) and services (TaskRabbit), to name just a few.

In addition to community appeal, these businesses are tapping into a new breed of consumer (discussed further under Reputation later in this chapter). These businesses are excelling in part because of the essential and increasing density of many cities.

Shell's Jeremy Bentham described what this future of urban development might mean for the company's future products and services portfolio: "With compact city development, Shell can be part of orchestrating the right combinations—for example, providing LNG fuel for large trucks and then recognizing that for final distribution (the 'last mile' in a compact city), city diesel or eventually hydrogen

"[There has been] a shift from a couple of years ago with only traditional technology and infrastructure companies being interested in cities, to a new paradigm where businesses across the spectrum are engaging with the urban agenda, especially as it has been understood how much cities and the growth of the urban middle class are shaping global markets. More sectors are starting to look at this issue in one way or the other."

Matthew Lynch, former Head of Sustainable Cities, WBCSD

NEW CUSTOMERS AND MARKETS
Smart city platforms like Cisco's Internet of Everything hold promise to address a range of urban issues and cities are a key customer base for such products and services.

may be a more appropriate fuel." Although Bentham admits Shell does not know when and where the opportunity will arise, the company's ideation speaks to the possibilities that could be unlocked when viewing the task of building sustainable cities through an opportunity lens.

The good news is, with one billion more urban consumers coming online by 2025,[34] the majority of whom will demand products and services that respond to challenging urban conditions without forcing them to compromise on quality, convenience, status, etc., it is likely that the eventual size of the opportunity, for Shell or for any other company that takes the lead among its peers, will be substantial.

Safeguarding Current Markets/Customers

> "How do you make money with people that still want to drive cars, but do not own them? How do you remain relevant in places where driving isn't an enjoyable experience? BMW has read the research on cities and BMW i is a reaction to a potentially bad prospect for our products there." **Ulrich Quay,** BMW i Ventures

The opportunity lens of the financial argument is compelling, particularly for industries primed to take advantage of more sustainable, compact and connected cities. That said, many incumbent businesses have and will continue to view urbanization as a threat, particularly as traditional customers' needs evolve at an increasing pace.

For example, German automaker BMW faces challenges shared by the majority of its peers in the auto industry:

- Skyrocketing urban congestion, especially in the fastest-growing cities;
- Mandated restrictions on car ownership and/or use, in part to ameliorate congestion; and,
- Changes in car ownership patterns and preferences, especially in urban areas, where consumers have an ever-expanding menu of mobility options.

SAFEGUARDING CUSTOMERS
BMW i, which combines all new electric and hybrid vehicle designs with a suite of mobility services like smart parking and carsharing, is seen by the company as a necessary response to changing customer preferences and needs.

BMW's response? The launch of a separate business unit in 2011 called BMW i, which explicitly combines a portfolio of alternative mobility products/services including electric cars, carsharing and on-demand parking. And BMW is not the only one taking this approach: in the last few years, fellow German carmaker Daimler has launched and/or acquired a portfolio of mobility services that includes point-to-point carsharing (Car2Go), a taxi sourcing app (MyTaxi) and an all-in-one mobility aggregator (RideScout).

In addition to exploring how to evolve their traditional business models and/or launching whole other business units, a critical aspect that many companies in the auto industry are waking up to is that in order to safeguard their businesses in a rapidly urbanizing world, they need a seat at the table. Matthew Lynch, of WBCSD,

"On one end of the spectrum, maybe nobody owns cars or drives anymore. Or maybe everything stays the same. The truth is probably somewhere in the middle."
Paul Beer, Manager of Special Projects in Corporate Strategy, Ford Motor Company

which counts a number of automotive companies as members, noted, "Leading car companies are wanting to work with cities to think through better transit, which may seem counter-intuitive at first. But especially in emerging economies, it's not good for cities to be choked with cars going nowhere. An integrated approach benefits customers and cities, but also supports the case for private vehicles to remain a credible element of a future sustainable mobility mix. So the auto industry is looking at this from both a risk and opportunity perspective."

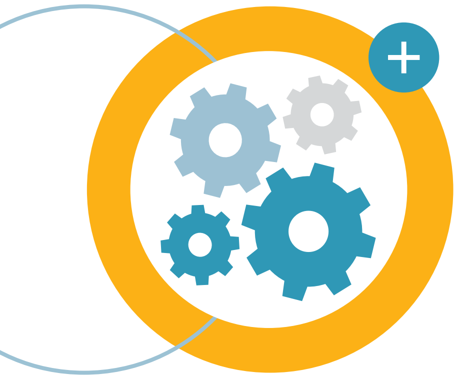
Paul Beer, Manager of Special Projects in Corporate Strategy at Ford, also told us this isn't a zero sum game and therefore the company needs to be that much more thoughtful about how it responds. "On one end of the spectrum," he said, "maybe nobody owns cars or drives anymore. Or maybe everything stays the same. The truth is probably somewhere in the middle."

The automotive sector is far from the only industry that has recognized a financial interest in adapting to the urban consumer. Electric utilities have seen their traditional relationship with customers threatened by, among other developments, the proliferation of rooftop solar, the increasing penetration of electric vehicles, and in general, "citizen-consumers" taking a stronger interest in where their energy comes from. As Joshua Brock from San Diego Gas & Electric puts it, "Utilities have to reinvent who we are. If not, we're just a bill in the mail."

"Utilities have to reinvent who we are. If not, we're just a bill in the mail."
Joshua Brock, Supervisor, Government Partnerships, San Diego Gas & Electric

Retailers, from big-box behemoths like Walmart and Target to coffee chains like Starbucks and Tim Hortons, are also adapting based on shifting consumer preferences influenced by cities and urban living. Speaking about Tim Hortons, the beloved Canadian coffee chain, and its suburban roots, Heather Mak, a former sustainability manager at the company, explained that while the company is "not talking about urbanization with a capital 'U'," Tim Hortons recognizes that urban density is a macro trend that is not going away. "They have been opening more restaurants in Toronto and other Canadian centers, adapting the format and menu to be more compact."

Operations



As urbanization and globalization collide, the economic power and importance of cities only further increases. For business, this manifests not only direct, commercial risks and opportunities, but also through a multitude of potential indirect, operational impacts that must be adapted to, or in other cases, seized upon to create additional value. These include potential disruption (both slow-moving and sudden), effects on corporate talent and innovation, changes in public policy, and opportunities for increased efficiency or cost savings, each of which is discussed below.

Safeguarding Against Disruption ("Acute Shocks")

A storm making landfall on a dense urban center, imperiling citizens and local commerce. An enduring drought that parches the municipal water supply and threatens the region's food security. A blistering heat wave that leaves already vulnerable communities in harm's way as electricity grids and related infrastructure strain from overcapacity. These descriptions are typical representations of how climate change, water scarcity, extreme weather events and other challenges—what Rockefeller's 100 Resilient Cities initiative calls "acute shocks" — will not only impact urban resilience, but also direct and indirect business operations.

A recent study in the International Journal of Disaster Risk Reduction illustrates what's at stake. Using the 2011 flooding in Thailand as a case study, the authors make the connection that Thailand's urbanization, particularly that of the capital city Bangkok, exacerbated the flood's impact and was one of two primary causes for the extent of damage to the automotive supply chain located in the area. Three Japanese automakers in particular employed Thailand as a major production hub and each of them (Toyota, Honda and Nissan) had to shutter factories at one point. This resulted in a massive disruption of productivity for each of the companies, with "Toyota, Honda and Nissan losing 240,000, 150,000, and 33,000 cars, respectively, because of the Thai floods."[36]

THAILAND FLOODS
Automobile manufacturer Toyota lost equivalent to 240,000 vehicles as a result of shuttering factory operations during the Thailand floods of 2011.

While the Thai floods are considered a particularly damaging "acute shock,"[37] smaller-scale disruptions are becoming more routine. A World Bank study projected that between 2000 and 2050, urban populations "exposed to tropical cyclones or earthquakes will more than double" and the increasing concentration of capital and people in urban areas exacerbates the economic impact of such events.[38]

According to the Zurich Insurance Group's 2014 Supply Chain Resilience Survey, which polled 525 supply chain professionals based in 71 countries, 76% of respondents report at least one instance of supply chain disruption last year, 51.6% of them from adverse weather, while almost a quarter of respondents (23.6%) reported annual cumulative losses of at least €1 million due to supply chain disruptions. What's more, the study found that "respondents reporting low top management commitment to this issue have risen from 21.1% to 28.6%."[39]

A challenge is that this kind of broad risk is difficult for individual industries or companies to effectively mitigate, which is precisely why it is necessary to address it in a more systemic context including, particularly, at the level of individual cities.

"While climate-accelerated natural disasters may grab the most headlines related to how businesses, large and small, will be affected by a city's resilience (or lack thereof), there are a myriad of other slow-moving effects—or so-called 'chronic stresses'—that also have the capacity to impact business."

TRAFFIC CONGESTION AND POLLUTION
Beijing, China: Traffic congestion and air pollution are key urban stresses affecting business operations in major cities.

Safeguarding Against Expected Change ("Chronic Stresses")

While climate-accelerated natural disasters may grab the most headlines related to how businesses will be affected by a city's resilience (or lack thereof), there are myriad other slow-moving effects—or so-called "chronic stresses"—that also have the capacity to impact business.

One of these stresses is traffic congestion. We have already mentioned the impact of increasingly congested streets on traditional automotive business models, but congestion in urban areas also contributes to sizeable hits to GDP on a macro basis, and to longer commute times/loss of productivity for commuting employees on a micro basis. According to the New Climate Economy Report, "Traffic congestion [...] costs 4 percent of GDP in Cairo, 3.4 percent in Buenos Aires and 2.6 percent in Mexico City. In Beijing, the social costs of motorized transport are as high as 15 percent of GDP, while urban sprawl in America adds $400 billion annually in extra infrastructure, public service and transport costs [...] Even in the higher-density European Union, congestion costs average 1% of GDP."[40]

While urban congestion is certainly a collective action problem, forward-thinking employers have experimented with ways to mitigate its impacts (e.g. shared mobility schemes, telecommuting), and companies will need to continue to innovate as these challenges rise. In 2014, Shell Oil Company launched a project called Houston Flows, which is investigating how it can reduce the environmental footprint from the transportation of people, goods and services within and through the Greater Houston Area, which currently accounts for over 40% of Houston's GHG emissions. The first component is the one the company has the most control over: exploring how it can drive behavioral changes that help create more sustainable mobility choices by Shell Houston employees within and across facilities.

Another risk, linked in part to commuting, is air pollution. While often considered a relatively manageable problem in more developed countries, it is a deepening crisis—especially in economically important megacities—in emerging economies. The clearest and most important example is China, where the overwhelming majority of cities fail to meet the national government's own lax air quality standards,[41] and where major political and economic disruption has resulted from smog levels that are frequently off the charts in the biggest cities.[42] The result is a growing challenge for both Chinese businesses and the many global companies that are increasingly dependent on China[43] for growth. The World Bank estimates that air pollution alone has cost roughly five percent per year of GDP for China,   and the issue is now cited as a potential barrier to foreign investment in the country.[44] But even while the Chinese government has vowed decisive action, it will take a long-term, concerted effort, in which business will play a crucial role, to get the issue under control.

Other risks include the more gradual effects of climate change on cities, and the added costs and challenges these may impose on companies, such as increasing urban heat islands, impacts on public health and social continuity, and higher energy, water and other resource costs. The 2014 CDP Cities report Protecting Our Capital explores these impacts and data and perspectives from cities and companies likely to be affected by them. It finds that there is an emerging consensus on which impacts pose the greatest threat to business and that a growing number of "city-led adaptation actions contribute to business resilience," but also calls for further collaboration between the public and private sectors to identify local risks and motivate more systemic action. According to the report, "Both sectors can benefit from a greater understanding of each other's climate change risks, and companies can help reduce citywide risks by embedding local adaptation needs within their business operations."[45]

Talent & Innovation

"A new trend in recruitment and retention is now upon us, where the allure of cities and urban living serves as a primary recruitment tool. As a result, employers must grapple with whether they get an 'urban bump' or are victim to the reverse and must strategize accordingly."

Recruitment and retention is not what it used to be for large companies. Silicon Valley tech icons like Google were perhaps the first to demonstrate on a grand scale that as attractive as healthy pay packages and rewarding work were for prized current and prospective employees, they were not nearly enough to ensure competitiveness in the global race for top talent. So, among other things, Google and its acolytes brought the urban world, with all of its culinary, wellness and entertainment attributes, to its employees at campuses that are still largely suburban.

A new trend in recruitment and retention is now upon us, where the allure of cities and urban living serves as a primary recruitment tool. As a result, employers must grapple with whether they get an "urban bump" (i.e. cities ranking high on metrics like livability, walkability, connectivity, access to transport, quality schools, entertainment, nature, etc.) or are victim to the reverse and must strategize accordingly.

"Many of the corporations that are now thinking about city issues have noticed this problem not because they've studied it, but because they have not been able to fill HR requirements," said Ryan Chin, Managing Director of MIT's City Science Initiative. "For example, Pepsi's campus is in suburban New York and they are having a problem hiring young, smart knowledge workers to work for them. Many companies, especially in the US, are like that. This dynamic wasn't true just 15-20 years ago. In the end, you have to start thinking about how to be more urban as a company."

AMAZON INVESTMENT IN SEATTLE

Amazon is investing $10m in improvements to the local urban infrastructure in Seattle in a bid to attract and retain the best talent in its workforce.

One company that has made that decision—while hinting at how other large, influential employers may interface with cities to co-create more sustainable, resilient and attractive urban spaces—is Amazon. Eschewing a suburban Seattle campus, Amazon has instead been instrumental in remaking the South Lake Union district in the heart of the city. As part of the development, Diane Sugimura, director of Seattle's Department of Planning and Development, has stated that Amazon is paying the city $10 million in order to develop three alleyways, and will additionally be "required to build wider sidewalks, construct two blocks of separated bike lanes (which will ultimately become part of the neighborhood's larger cycling network), contribute public art to the area, add a streetcar to the existing system and carve out a dog run."[46]

Sugimura also says that "such public-private collaboration is the future of urban design, as companies find the prospect of getting a 'cool neighborhood' as alluring as getting a tax break." While that may be true, companies directly involved in transforming urban neighborhoods will also have to mitigate the real or perceived

"For example, Pepsi's campus is in suburban New York and they are having a problem hiring young, smart knowledge workers to work for them. Many companies, especially in the US, are like that. This dynamic wasn't true just 15-20 years ago. In the end, you have to start thinking about how to be more urban as a company."
Ryan Chin, Managing Director, MIT City Science Initiative

notion that they are not just part of the gentrifying headwinds of their cities. The 2014 controversy over Google bus stops in various San Francisco neighborhoods serves as one particularly poignant cautionary tale.

What Amazon is doing in Seattle already has corporate counterparts across the U.S., but rather than trying solely to attract and retain talent (which is certainly part of the motivation), some companies are also attempting to more directly engineer—and benefit from—the way cities innovate. This is influenced by research from leading urban academics like Edward Glaeser, who has written about the connection between density and innovation capacity, and Geoffery West, whose research found that cities, unlike companies, become more innovative as they grow, in part because of the "spontaneous collisions" that are possible in dense, diverse urban centers. This idea has not only a name, but also a budding measurement system: ROC, or Return on Collision.[47]

While academic initiatives like MIT's City Science are putting research into practice by piloting a number of neighborhood-scale innovation districts[48] in collaboration with other partners (e.g. HafenCity in Hamburg, Germany, or the Urban Regeneration Plan in Monterey, Mexico), there are also grand experiments like those being led by Zappos' Tony Hsieh in Las Vegas, Nevada (the Downtown Project) and Quicken Loans' Dan Gilbert in Detroit, Michigan (Opportunity Detroit). Regardless of the success of efforts like the Downtown Project or Opportunity Detroit, they represent a continuum of approaches to being an "urban company."

Policy Engagement

Among the most influential tools that cities have in making the transition to a sustainable and resilient future is policymaking. Additionally, while individual municipal governments have direct influence over a number of levers of sustainable development (energy, water, waste, transportation, etc.) within their own borders, these cities, especially large ones, have also become important harbingers of what policies will get replicated across municipal, state/provincial and national jurisdictions, as well as internationally.

As Jeremy Bentham of Shell puts it, "Urbanization is one of the great phenomena of our time and increasingly, regulatory developments to account for this are taking place at the individual city level." Recognizing the importance of being at the table, Shell is in the process of reorganizing and reorienting its stakeholder engagement function so that it is better equipped to engage in important city-level policy dialogues.

What this means for multinational companies more broadly is that, regardless of whether they have something to gain or lose from pro-sustainable development policymaking in priority cities, there is a minimum requirement to stay abreast of the process. Once informed, engaging in public and transparent dialogues, and/or advocating for policies that will benefit the city's sustainability and resilience—while also benefitting the business—may not only affirm a company's license to operate, but also help it move to the forefront of evolving political and regulatory trends.

The fledgling sharing economy has, in some of the most high-profile instances involving Airbnb and Uber (as well as countless other urban transportation startups), felt the brunt of a patchwork of municipal (and sometimes state) regulations, which have dampened or completely disallowed their license to operate, even amidst soaring demand for their services. This is not entirely without design, as many of these urban disruptors made a proactive decision to defy existing laws seen as outdated and/or outmoded in favor of generating enough users—and a groundswell of support—to win legality.

Still, the setbacks have had some prominent voices in the sharing economy wonder aloud what would be possible if they were to have more systemic and collaborative interchange with cities. When we first spoke with David Estrada, VP of Government Relations for the peer-to-peer ridesharing company Lyft, he lamented that his interaction with cities rarely considered anything beyond near-term regulatory matters. However, this may be starting to change. In a follow-up conversation, he remarked, "In the last few months alone, we have started to see a major shift in our relationship with local governments. Once initial regulatory frameworks are established, the conversation is quickly turning to one of partnership, and how Lyft can play a role alongside transit in reducing traffic, car ownership, and air pollution."

Meanwhile, other industries—including retail, food and beverage, consumer goods, and others—face the growing potential for cities to become another key battleground and/or a new frontier for engagement around both real and perceived externalities tied to their businesses. One notable example is the ongoing debate over soda taxes.

Following Mexico City's 2014 enactment of a new tax on large sugary drinks, designed to counter increasing obesity, and New York City's high-profile attempt prior to that, the beverage industry faced a rash of referendums across U.S. cities to implement a similar tax. The industry, in the form of its key trade group, the American Beverage Association (ABA), has fought back vigorously, and as a result, only one such tax initiative, in Berkeley, CA, has been passed in the U.S. But the fact that cities are likely to continue exerting their increasing influence in this way—on public health, as well as on climate change, inequality, water, waste and recycling, and other key sustainability issues—underscores why companies will find it necessary to become more engaged, and not only in oppositional terms.

On a similar note, while there are many cases where business may view urban policy engagement as a means to safeguard its current/future financial prospects or its ability to operate, there are other examples where policy engagement can boost its reputation and/or its sustainability commitment. Chief among these opportunities is climate diplomacy. Initiatives like BICEP (Business for Innovative Climate & Energy Policy) have been employed to rally progressive company support around climate change legislation, and just recently, corporate leaders like Apple echoed the calls of the UN and hundreds of thousands of citizens during the 2014 Climate March in New York City to reach a global climate deal. That level of diplomacy (and more) should be applied to cities' climate action commitments, says Johanna Partin of USDN. "Cities have been the proving grounds and centers of innovation for GHG mitigation and climate resilience, and greater awareness of this is important on the global stage. In addition to standing together as leadership cities through various city networks, the extent to which that visibility is shared and can be amplified by the private sector is huge."

"Regardless of whether companies have something to gain or lose from pro-sustainable development policymaking in priority cities, there is a minimum requirement to stay abreast of the process."

Efficiency/Cost Savings

Perhaps the most straightforward way that businesses benefit from operating in sustainable, resilient cities is when there is a direct impact to the efficiency or cost of doing business. While some of the examples presented in this section may have cost advantages over the long term—for instance, buying housing units for employees near your business to alleviate chronic stresses like increasing congestion or decreasing housing stock in desirable areas—others may make sense right away.

Examples of financial co-benefit for companies abound in cities implementing progressive legislation to boost sustainability and resiliency, whether it be renewable energy/energy efficiency incentives, waste reduction regulations that reduce hauling charges (e.g. San Francisco's zero waste pledge), or an expansion of (subsidized) public and quasi-public transportation (e.g. bike sharing), allowing large companies to not have to provide private transportation for employees or incur indirect losses resulting from lost productivity due to road congestion.

"With careful design and ideally a level of engagement sufficient to identify and realize even greater opportunities over time, the private sector, cities and others can come together to design and implement scalable solutions to complex urban challenges."

Green City, Clean Waters, the City of Philadelphia's 25-year plan to reduce water pollution impacts via green stormwater infrastructure, has both near and long-term cost advantages to local-area businesses. Specifically, if businesses undertake green infrastructure projects like rain gardens, green roofs or rainwater harvesting, they will result in stormwater credits that permanently reduce the business' water bill.[49]

Granted, not all such examples are 100% win-win—in some cases, they are designed to partially offset, rather than obliterate, initially higher costs and/or other tradeoffs associated with certain interventions—but they demonstrate that with careful design and ideally a level of engagement sufficient to identify and realize even greater opportunities over time, the private sector, cities and others can come together to design and implement scalable solutions to complex urban challenges.

Reputation

Beyond financial and operational motivations, there are clear reputational reasons for companies to take a proactive role in ensuring urban sustainability and resilience, especially where they have a particular stake in a community—e.g. a home town or a significant base of operations—but also where city-level issues or aspirations, or just the simple power of place, have some kind of connection to their products/services or brand. We see this breaking down into three separate but complementary aspects of civic obligation or pride, enhanced customer engagement and being in the vanguard.

Civic Obligation/Pride

In Chapter 1, we suggested that an updated understanding of corporate civic responsibility in the 21st century could motivate the private sector to come to the table in ways that complement (or in some cases, precede) direct business interestinterest.

Former Duke Energy CEO Jim Rogers exemplified this intersection of interests, seeing his utility's long-term viability inextricably connected to the city of Charlotte, NC, where the company was headquartered. Envision Charlotte, which launched at the end of 2011, is a partnership between corporates located in Charlotte's urban core—including Duke, Bank of America, Wells Fargo and Verizon—and city/county governments to reduce energy consumption by 20% by 2016 (they have since expanded the scope of the initiative to waste, water and air).

According to a Harvard Business School case study profiling Envision Charlotte and Rogers, the goal "dovetailed with Rogers' effort to establish Charlotte as the 'new energy hub of America,'" making the region's economy both more competitive and resilient to downturns in other sectors (namely finance, long the determinant of success for Charlotte).[50] Rogers believed that in demonstrating the interest of Charlotte's business community and city to reduce energy consumption, more green-minded or cost-conscious companies would view the city as "a highly progressive business center" and contribute to the emerging cluster. Referring to what impact Charlotte's elevated standing has on Duke,[51] Rogers said in a separate interview, "Charlotte's our hometown. North Carolina's our home state. And anything that puts the spotlight on our city and on our state is good for Duke." (Other notable examples of city-based sustainability coalitions in which large companies are increasingly active include San Francisco's Business Council on Climate Change, the Los Angeles Business Council and the Detroit Climate Action Collaborative.)

"This form of enlightened civic pride can be specific to a multinational company and its home city or extend to a city (or cities) that are priorities for other reasons, including the potential for a significant reputational boost."

This form of enlightened civic pride can be specific to a multinational company and its home city or extend to a city (or cities) that are priorities for other reasons, including the potential for a significant reputational boost. In 2014, JP Morgan Chase (JPMC) announced a $100 million program to invest in abandoned home renovation, job training and supporting small business development in Detroit. Skeptics can (and have) referred to this initiative as everything from charity-as-usual to an elaborate attempt to privatize public infrastructure at the expense of the citizenry. Such backlash is not altogether surprising: financial services companies and banks were ranked among the least trusted industries in the latest Edelman Trust Barometer.[52] But while some of the finer details of JPMC's high-profile investment in Detroit will continue be scrutinized before more substantial impact data is released, the investment can also be explained in much more straightforward terms: the bank has had a presence in the state for 80 years, "employs 3,600 people in Michigan across 300 branches and in 2013, was the largest consumer mortgage lender in the state."

Continuing the theme of big banks and their role in catalyzing urban development, Citi recently announced a headline commitment to invest $100 billion in low-carbon development and sustainable cities over the next ten years. While the bank isn't setting aside its usual criteria for judging the soundness of its investments, where those criteria can be aligned with a compelling societal interest, it will be that much more interested in the opportunity. In a GreenBiz article following the announcement, Marshal Salant, global head of Citi Alternative Energy Finance, said, "We're not going to do business that's not economic just to hit an environmental goal. But we will look at more possible alternatives, and if they pass our hurdles we're going to pursue them."[53]

Also indicative of the company's deepening engagement in cities is its Urban Innovation Initiative. The effort deploys a portion of the money the company must invest under the U.S. Community Reinvestment Act—which encourages financial institutions to help meet the credit needs of low-income neighborhoods—to invest in urban-based startups that target low-to-moderate income consumers. The first two investments are in Streetline, a smart parking company, and Revolution Foods, which provides healthy food to local schools. "The Urban Innovation Initiative is a way of pulling in a dialogue from an external branding perspective and internal funding perspective," said Mark Paris, who leads the program. But also, according to Paris, it's an opportunity for the company to help fill a gap in the market for sponsoring and nurturing promising innovations and companies that, because of some of the unique challenges of working with cities, might otherwise never get off the ground, but which, if they are successful, could make a world of difference for the communities where they take hold.

Enhanced Customer Engagement

"A crucial element, as well as a benefit, for any company seeking to better engage at the local level is enhanced authenticity. That's a long-term project for many corporates—who, as a sector, continue to face historically low levels of public trust—which is all the more reason it shouldn't be neglected."

An extension of civic engagement and pride is the potential for deepening and improving relationships with customers. More than just tapping into the evolution or emergence of more urban-oriented consumers (discussed earlier), this speaks to the opportunity for companies to align with individual and community values and concerns, which are often hyper-local, with potential benefits flowing in both directions.

One example of this is the effort by some companies to become more engaged and relevant in local contexts. While they used to be concerned primarily with adapting big-company products and messages to regional or country-level variations in language or culture, so-called "localization" strategies have begun to drill down to the level of specific cities.

Recognizing that some customers were beginning to be turned off by its ubiquity, and no doubt conscious of its "corporate coffee" image in some communities, Starbucks has pursued an aggressive, multi-year effort to localize many of its stores. The strategy has included developing much more unique store designs that often incorporate local materials or art, or other locally relevant features. The company has also made changes in interior design and furnishings, and facilitated the use of its stores for community meetings and events, all of which has helped Starbucks to position itself much more as a neighborhood café than a fast food restaurant.[54] The effort clearly has a financial rationale, but is also a valuable proof point for a company whose global responsibility strategy hinges on a strong commitment to community values.

The desire to express shared connection to and investment in specific places, and to better connect with customers and other stakeholders in the process, was also the rationale for a localization strategy now being pursued by the Northern and Central California utility, Pacific Gas & Electric Company (PG&E). The effort involves a series of local leadership teams which bring together different elements of the business and enable more local decision-making, so the company is able to engage and work more directly with local stakeholders, whether on core elements of customer service or around its community investment and sustainability activities.

"We're a place-based industry," said Director of Corporate Sustainability, Chris Benjamin, "and our success is fundamentally tied to the success of our customers, so our local leadership teams are really about providing better service to them." According to Benjamin, advantages include being able to listen better to both near and long-term customer concerns, and the ability to be more innovative in pursuing goals like enhancing energy efficiency.

A crucial element, as well as a benefit, for any company seeking to better engage at the local level is enhanced authenticity. That's a long-term project for many corporates—who, as a sector, continue to face historically low levels of public trust—which is all the more reason it shouldn't be neglected. Where the sustainable cities agenda fits in, and can potentially provide a new platform for legitimacy on a broader, stakeholder-directed agenda, is at the intersection of "sustainable," "resilient" and "local."

"As global sustainability issues continue to be filtered down to a local level and become more synonymous with quality of life, understanding this agenda and connecting with citizens on areas of common ground can unlock new customer insights and contribute to a deeper well of trust to call on in the future."

Mathieu Lefevre of the New Cities Foundation sees sustainability issues broadly moving out of niche bastions of interest and concern. "Voters are clearly putting their priorities around sustainability, and not just in the 'hipster cities,'" he said. "The bulk of cities now care about sustainability. In China, sustainability, especially in terms of clean air is not just a 'nice-to-have' thing—it's an existential issue when kids are dying of asthma. Sustainability is a larger priority elsewhere, too. In Europe, the economic crisis may have kicked sustainability off the pecking order slightly, but it's still there."

As global sustainability issues continue to be filtered down to a local level and become more synonymous with quality of life, understanding this agenda and connecting with citizens on areas of common ground can unlock new customer insights and contribute to a deeper well of trust to call on in the future.

Being in the Vanguard

Beyond the benefits of relationships that companies may form with specific cities or the people in them, the increasing influence of cities and their priorities also provide business with a wider reputational opportunity among a concentration of political and cultural leaders and tastemakers. Nils Moe, Managing Director of USDN, expressed this, saying, “Cities are the ‘darlings’ right now. A lot of the innovative work is happening within cities—foundations, national organization and agencies, and states are all recognizing this.”

We see evidence of this in the marketing campaigns, magazine features and conferences where companies and others tout their innovative work with cities. It’s also evident in the proliferation of high-profile innovation districts, and the rush by many companies to be involved in them in cities around the world. None of these efforts are inherently misguided. In fact, many are acting as crucial catalysts for the very agenda this report espouses. But it’s understandable, given the perceived reputational value of such efforts, that sometimes the vision and the rhetoric outpace the reality.

Indeed, associating your company with what is in the vanguard is not strategic in and of itself, and knowledgeable stakeholders can surely sniff out when any actor is looking for positive PR without committing to any real investment of time, talent or resources. That being said, working with and/or through cities has become a kind of fast track to some of the most interesting experiments to catalyze sustainable development, and to the prestige of being seen as a leader on an important and exciting new frontier.

Sustainability Leadership

We frequently think of making the business case for sustainability. In this report, we are considering the business case for a specific extension of the corporate sustainability agenda in cities. Our argument is aimed at companies that are generally already committed to broader sustainable development. This makes it logical to explore the opportunity for enhanced sustainability leadership as a dimension of the wider business case.

With respect to cities, we believe this hinges on opportunities to address sustainability issues at a level where there are significant, tangible effects, as well as the potential for broader impact.

Tangibility

One of the central reasons for recognizing and exploring the nexus of corporate responsibility, cities and sustainable development is that the majority of key sustainability issues are both acutely felt and potentially best impacted at the city level.

In our earlier report, Citystates, we evoked the idea that there is a far greater, and potentially valuable, immediacy to sustainability issues in many cities—what we called The Visceral City. Because the interaction and impact of a wide range of issues is more visible and more directly felt, there is the potential to "powerfully illuminate systemic problems and inspire action that would not otherwise be possible." [55]

This has manifested, for example, in:

- The aftermath of 2012's Hurricane Sandy in New York, where flooded subway lines were shut down for days or weeks, schools were closed for a full week, and gas and food shortages were prominent throughout the city's most populous neighborhoods;
- The accelerating water crisis in São Paulo, where one of the daily newspapers, Folha de São Paulo, runs a daily news feed in the "Crise de Agua" or "Water Crisis" section, chronicling the changing water levels in the reservoir system, and where there is frequent water rationing, reduced water pressure by the local water authority, and increased publicity regarding fines imposed for water misuse; and,
- The emerging poor air quality story playing out in Beijing and other Chinese cities such that an online documentary highlighting the issue, "Under the Dome," by former investigative journalist Chai Jing exploring air pollution in Chinese cities released in early 2015, was viewed over 150 million times within three days of its release.

These and many more examples highlight why the issues confronting cities are often of a visceral nature: people in these cities literally feel the issues directly affecting their day-to-day lives.

NOVO CITIES
CHANGING DIABETES
Novo Nordisk's Cities Changing Diabetes initiative is aimed at raising awareness of the links between urban living and diabetes and partner with cities to advance effective solutions other problem.

But more than just elucidating the problem and inspiring necessary action, cities also offer many of the most tangible levers for change. Again, in *Citystates* we explored how cities' innovative capacity, the willingness and ability of many mayors to take specific actions (especially on city systems and services within their direct control), and the opportunity to collaborate with a highly engaged cadre of urban stakeholders provide the means for rapid progress on key issues like climate change, waste, water and public health.

For companies, then, whether their sustainability efforts are focused on energy, water, waste, inequality or health, or on changing policies and behaviors that influence activities and impacts well beyond the city (such as energy and material extraction, agriculture or logistics), cities are an increasingly critical field of play. This is all the more important in an era where leading companies recognize that their most important sustainability impacts, and/or their biggest opportunities to contribute positively to sustainable development, exist well beyond their direct operations.

And indeed, we see signs that a growing number of companies are beginning to think about and act on their sustainability ambitions through an urban lens. Take, for example, the Danish-based pharmaceutical company Novo Nordisk. Already a well-established corporate leader on sustainability, the company recently celebrated the 10th anniversary of its Changing Diabetes initiative, which works to counteract the meteoric rise in cases of the disease. In the course of that effort, the company began to note increasing ties between urban development and type 2 diabetes, starting with the fact that two out of every three people with diabetes live in cities. So, in 2014, the company launched Cities Changing Diabetes, to raise awareness of these links and partner with cities (so far Copenhagen, Houston, Mexico City, Shanghai and Tianjin) to advance effective solutions to an epidemic that is uniquely urban in nature.

Mette Moffett, who leads Cities Changing Diabetes for Novo Nordisk, told us that the program is guided by the company's interest in improving the lives of people with diabetes and preventing others from ever developing it, which is an interest it shares with other urban stakeholders. "The cost of treating complications of diabetes is so severe, and the psycho-social impacts for individuals are so significant," Moffett said. "So if cities could have a way to prevent diabetes, detect diabetes earlier and provide holistic care and support for people with diabetes, it is much better." She also emphasized the opportunity Novo Nordisk and its partners see in better understanding and acting on specific social and cultural risk factors. Eating and exercise habits, income, employment, safety poverty and access to treatment and care influence prevention and control of the condition, but are highly unique country to country and city to city. "Intervention solutions will happen locally, but with global knowledge and best practice, we can help cities towards more effective solutions." she said.

"For companies, then, whether their sustainability efforts are focused on energy, water, waste, inequality or health, or on changing policies and behaviors that influence activities and impacts well beyond the city (such as energy and material extraction, agriculture or logistics), cities are an increasingly critical field of play."

Expressing a similar sentiment, Amy Hill, Senior Director of Public Affairs for Walmart, told us, "We've long been a proponent of cities because they get things done. They're executors. We'll probably continue to see more instances where nothing happens at the federal government level. We want to be where more change can happen, so we will continue to grow our partnerships with cities."

CLOSED LOOP FUND
Corporate-funded collaboration The Closed Loop Fund is designed to grant low-interest loans to recycling projects which have the potential to not only improve recycling rates, but also increase the amount of recycled materials channeled back into packaging production.

Systemic Impact

Key to what Novo is pursuing through Cities Changing Diabetes, and underlying the opportunity for many other companies to make more significant impact on their priority issues via cities, is the potential for systemic impact.

As noted in Chapter 1, the last few years have seen increasing recognition and incorporation of systems thinking in corporate sustainability practice. This has been part of a necessary evolution in order to make meaningful progress. As companies seek more significant and lasting impacts on their key issues, many have embraced more systemic approaches—in their supply chains, and in the networks they form with customers, partners and other stakeholders (including, in some cases, competitors)—often with the aim of transforming the very structures from which issues emerge, and/or creating the circumstances to enable more effective solutions. It also represents a welcome increase in corporate ambition, stemming from the realization that if only a handful of leading companies succeed in protecting and advancing their businesses in the face of a worsening sustainability crisis, then everyone still loses.

In this context, the systemic importance of cities goes in two directions. First, with relatively proscribed boundaries, clearer lines of sight and the potential for disparate stakeholders to unite around a shared sense of place, they are ideal settings for holistic understanding and action. Second, as systems within a system, cities are key leverage points for driving sustainability at scale.

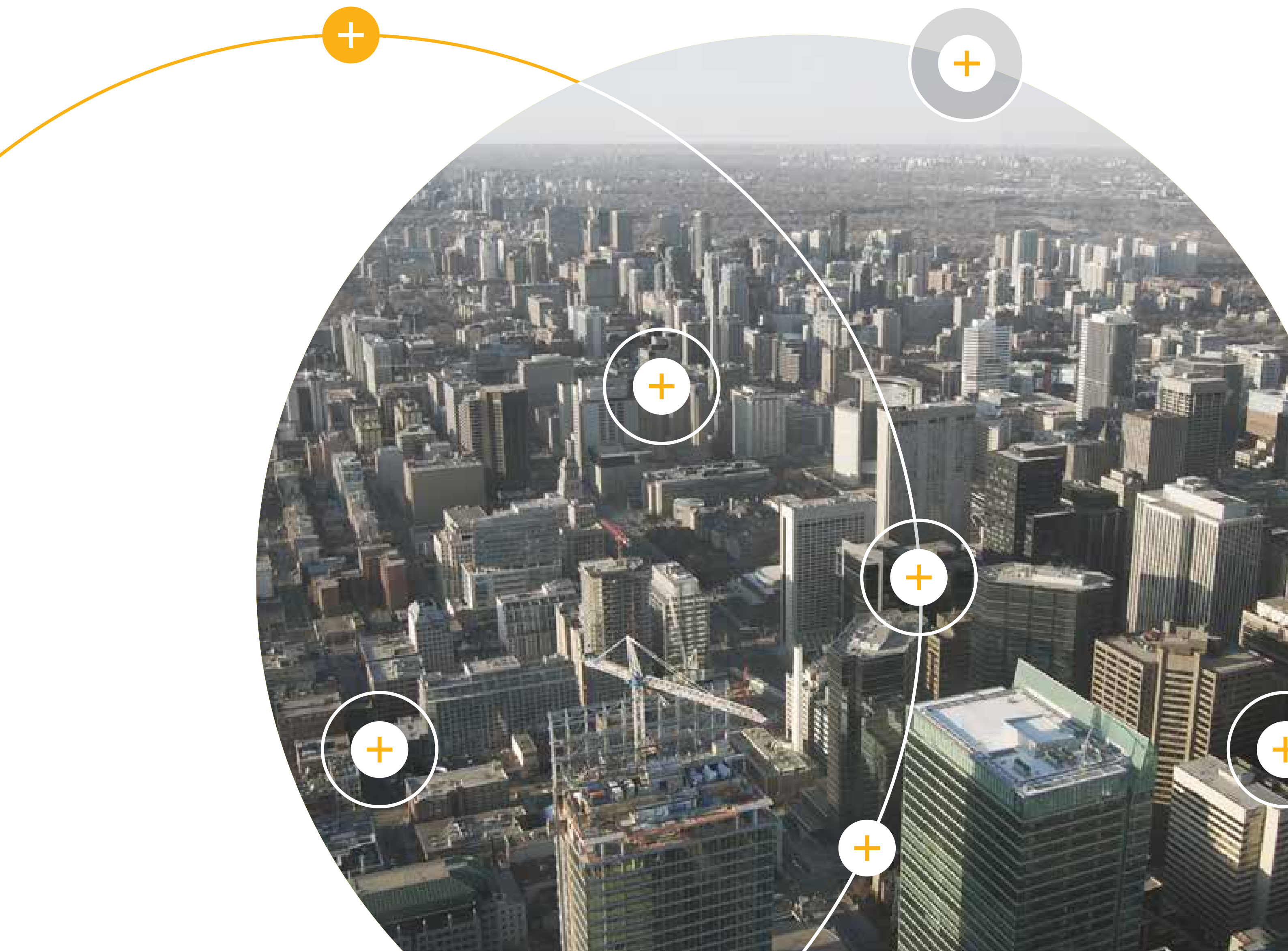
"The systemic importance of cities goes in two directions. First, with relatively proscribed boundaries, clearer lines of site and the potential for disparate stakeholders to unite around a shared sense of place, they are ideal settings for holistic understanding and action. Second, as systems within a system, cities are key leverage points for driving sustainability at scale."

Though still nascent, recognition and action are beginning to play out on a number of fronts. Waste management and recycling is one example that is currently gaining momentum, particularly in the U.S. Acknowledging that packaging waste remains a significant reputational issue and a potential loss of value as they pursue the idea of a circular economy, major companies in the retail, food and consumer products industries have begun setting goals to improve recycling rates not just in their own operations, but across the board in key cities and countries. Unilever has pledged to increase the recycling rates in its top 14 markets by 15% by 2020. PepsiCo currently aims to increase the U.S. beverage container recycling rate to 50% by 2018. In setting such goals, companies have acknowledged that they will only be achievable through understanding all the ways cities can incentivize post-consumer waste reduction, and collaborating with the recycling value chain to make it happen.

Another systems-oriented collaboration in urban waste control and recycling, which Unilever, PepsiCo, Coca-Cola, Keurig Green Mountain, Walmart and a host of other companies have invested in, is the recently-launched Closed Loop Fund. The fund is designed to grant low-interest loans to recycling projects proposed by U.S. cities, which, if implemented at sufficient scale, have the potential to not only improve overall recycling rates, but also dramatically increase the amount of recycled materials that can be channeled back into packaging, thereby allowing many of the participating companies to reach their goals around recycled content.

Some of the most promising collaborations occur when players from diverse sectors converge to solve a systemic issue, such as the collaboration between researchers from IBM, the telecommunications company Orange, and the local transit authority in Côte d'Ivoire's largest city of nearly 5 million inhabitants, Abidjan. Their collaborative initiative entailed collecting mobile data (after scrubbing all personal information) from 2.5 billion call records of 5 million cell phone users over a period of several months in 2012. The data was used to model traffic and commuting patterns and to inform the redesign of public transit bus routes, with the potential impact of reducing travel times by ten percent for public transit users.[56]

In a way, this brings us full circle. Again, this report's thesis: that there is a significant opportunity for business and cities to work together to create systemic solutions to sustainability and resilience within cities. The challenge: the need for greater private-sector collaboration and leadership to drive this forward. The solution: exploration of the business case which includes, among other things, the opportunity to act in meaningful ways on the private sector's growing commitment to sustainability leadership and systems change. But once a company has begun to map its own business case, how can it move forward, further developing and integrating these opportunities into its decision-making? That is the subject of our next chapter, which introduces a tool to help companies take a more strategic approach to this important work.



4 The CUSP Maturity Model

"The CUSP framework can be applied by any company that is interested in evaluating its readiness to engage on the urban sustainability agenda and understanding, at least at a high level, what commitment, ability and activities are necessary in order to progress."

Why a Maturity Model?

In Chapter 2, we offered a snapshot of the current state of business engagement on urban sustainability, concluding that there was a greater need to lay out the business case for the kind of deep, systemic engagement we are advocating for and believe is necessary to catalyze ideas, resources and action. Chapter 3 laid out that case and included examples of where businesses are engaging (and where we believe they will engage) on urban challenges on a financial, operational, reputational and/or sustainability leadership basis. While Chapter 3 presents optimism at the range of ways in which business, whether already fully engaged in cities or only peripherally so, can locate new customers, safeguard against escalating risks and/or associate themselves with new solutions are being trialed, for a majority of companies these opportunities are either largely unrealized or still in their nascency.

We now ask to what extent more companies can be brought into the fold. Or, more specifically, what interventions are needed internally for motivated businesses to recognize and engage the opportunity, and to pilot and ultimately scale solutions to wicked urban problems? Enter the maturity model.

Maturity models are traditionally used to describe the stages of formalization and optimization of business processes as they relate to a new agenda or program. Given our aspiration for more companies to engage on this new urban agenda, and our acknowledgement in Chapter 2 that there is still uneven and insufficient activity of the nature that we are describing, this framework can help plot generally where progress is occurring. More specifically, this framework can be applied by any company that is interested in evaluating its readiness to engage on the urban sustainability agenda and understanding, at least at a high level, what commitment, ability and activities are necessary in order to progress.

Chapter In Brief

- Version 1.0 of the Corporate Urban Sustainability Progress™ (CUSP) Maturity Model is provided to assist individual companies in evaluating their readiness to engage on the urban sustainability agenda and developing robust strategic initiatives in response.
- For each of the five steps of the model—Recognize, Engage, Pilot, Optimize, Scale— there is a desired outcome and guidance on the necessary level of commitment, activities and validation required to achieve it.
- The endpoint of the final step represents the desired outcome for the model as a whole: an ongoing, high-impact platform and lasting relationships with key city officials and other urban actors collaborating to ensure integrated, inclusive and sustainable development within and across priority cities, resulting in enhanced competitiveness and resilience of strategic operations, and supported by a deep well of stakeholder trust.

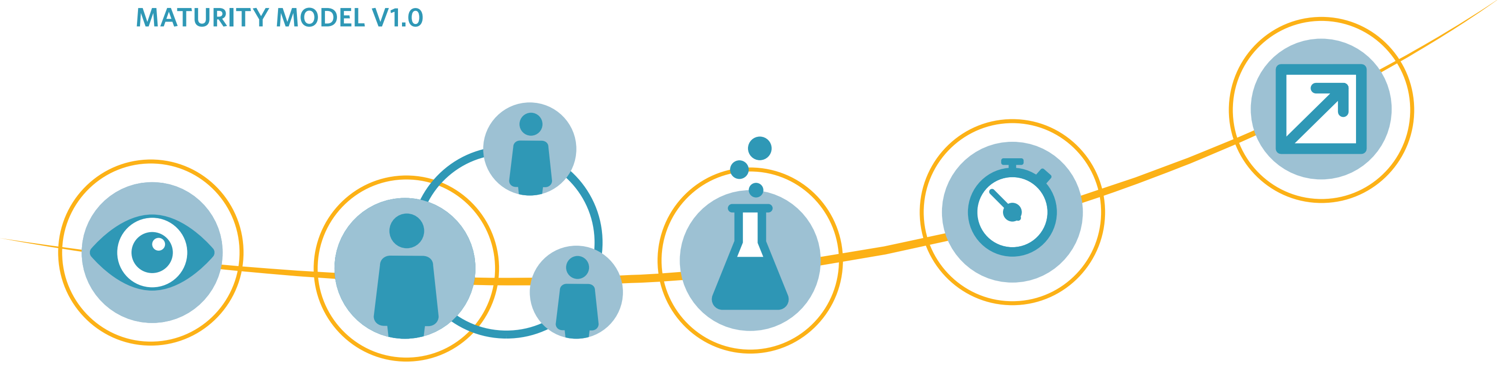
"Our experience is that these things don't come overnight, but they also don't take decades to mature. There will be a period of incubation. We're in the foothills of that climb now. Once an area is well understood and becomes familiar, you just do exactly what you know you should do. Before that, there's a long period of being in an unfamiliar world where you have to experiment to work things out."
Jeremy Bentham,
Vice President of Global Business Environment, Royal Dutch Shell

A few qualifications. First, in offering this model, we acknowledge having been inspired by a variety of similar frameworks within and beyond our field, including especially IDC's Smart City Maturity Model, which was created to assist municipal governments in understanding and acting on smart city innovations that hold potential to enhance public services and urban sustainability. However, while that model focuses on how cities can respond to an agenda that has been defined and catalyzed in large part by the private sector, ours explicitly turns the focus to how companies can respond to the related, but much wider, sustainability agenda being shaped by cities and their residents.

Second, thinking about the range of companies that the model is intended to address, we recognize that some will find themselves to be significantly advanced on certain aspects of, and/or on particular issues relevant to, urban sustainability, while perhaps still significantly lacking on others. And some may find they are not moving linearly through each stage of the model. Still, while each company's journey will be different and there is no universal formula for success, we hope the model provides a mechanism for any company to better apprehend the opportunities we've outlined in this report and to move towards a more comprehensive strategy for acting on them.

Lastly, given that this is the first iteration of the framework (what we will call version 1.0), we welcome feedback from any company that finds utility in it, or a model like it, to improve its engagement on the urban sustainability agenda.

THE CORPORATE URBAN SUSTAINABILITY PROGRESS™ (CUSP) MATURITY MODEL V1.0



1 RECOGNIZE	2 ENGAGE	3 PILOT	4 OPTIMIZE	5 SCALE
Company begins to recognize the connection between urbanization and near and long-term of businesses interests, but lacks the necessary resources and political will to further depen its understanding.	Company analyzes urban trends will specifically impact its industry/ businesses, identifies priority urban markets and stakeholders and receives regular internal/external input on where it can play within cities.	Company works alone or with partners to develop experimental products, services, initiatives or other urban-inspired activities in order to test the market and its own potential for impact.	Company evalues pilot(s) in terms of impact and operating model, and liaises across other functional areas internally and priority stakeholders externally to leverage their insights for improvement.	Company develops and implements growth strategy-within and across cities, unilaterallyand through partner channels.

Recognize

Maturity Level: Company begins to recognize the connection between urbanization and near and long-term interests of its business, including potential alignment of goals or relevant policies and incentives, but lacks the specific intelligence, resources and political will to further deepen its understanding.

Level of Commitment: No commitment, either verbally from executive leadership, or with respect to dedicated budget.

Activities:

- Conduct desk research on business and sustainability trends related to cities and urbanization.
- Read about and understand the impact of urbanization and related trends to businesses generally.
- Participate in thematic webinars, salons and/or conferences, despite lack of a particular agenda for involvement.

Validation: Ad hoc engagement with external stakeholders and/or internal colleagues on how urban-related trends are impacting, or can impact, business/industry.

Key Question: *What could this company contribute?*

Outcome(s): Initial understanding of potential relevance of and ability to impact priority urban issues.

Engage

Maturity Level: Company explores opportunity for deeper engagement on sustainable urban development by further focusing its analysis of how urban trends in cities of greatest relevance will specifically impact its industry/business, identifying common goals related to key issues, connecting with priority stakeholders in these cities, and receiving regular external/internal stakeholder input on where the company can potentially have an impact.

Level of Commitment: Company explicitly commits—in the form of specific budgets and/or analysis, and with a mandate from senior leadership—to explore the urban agenda and what opportunities and risks the company can/will face.

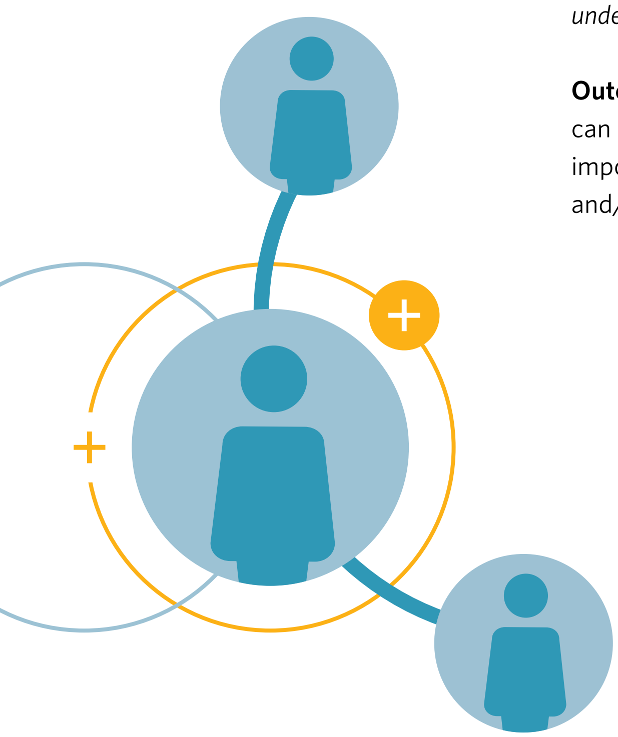
Activities:

- Develop risk/opportunity analysis of how urbanization will impact its industry and business, including impact on sourcing/supplier relations, current/prospective consumers, license to operate and innovation opportunities, among others.
- Cross-reference analysis with highest priority urban markets ; identify one or two social or environmental issues related to the business in specific cities, and develop baseline understanding of relevant urban/national policy in relation to current corporate actions or needs.
- Evaluate most important external stakeholders (municipal agencies, NGOs, trade groups, universities, etc.) and opportunities for dialogue (conferences, roundtables, etc.) in highest priority markets.
- Survey relevant conference platforms and other forums to learn/share.

Validation: Engage with stakeholders to deepen knowledge of key issues and current state, and to learn where the company's specific expertise/resources could be best deployed. Engage with relevant heads of internal business functions (e.g. marketing, public policy, public affairs, operations) to learn how urban-related trends are impacting them today.

Key Question: *What relationships are necessary to build and strengthen in order to understand the greatest opportunities/risks from urbanization?*

Outcome(s): A still-emerging, though filtered list of opportunities that the business can pursue further to contribute positively to the sustainability of their most important market(s), even if anticipated impacts (financial, operational, reputational and/or sustainability leadership) are still speculative.



Pilot

Maturity Level: Company works alone or with partners to develop experimental products, services, initiatives or other urban-inspired activities in order to test the market and its own potential for impact.

Level of Commitment: Company has vocal support (internally and externally) on need to be a player on key issues in a specific city or cities, because of impact and relevance to the business and/or communities it operates in. Company has dedicated resources to develop and test initiative(s) in at least one significant market.

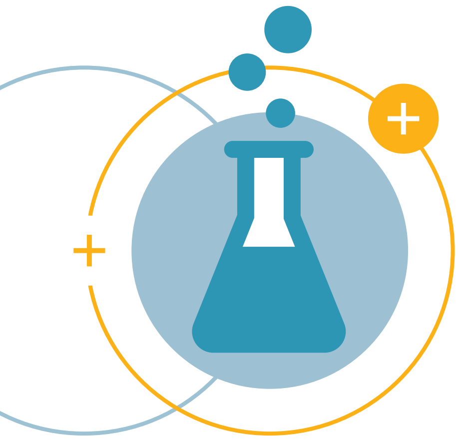
Activities:

- Analyze how engagement at city level can accelerate previously stated goals/objectives related to financial, operational, reputational and/or sustainability leadership criteria.
- Identify greatest opportunities for sustainability impact, for example through policy engagement to adapt incentives, deployment of resources to contribute to existing city initiatives, contributing to communication and awareness building, development of new products or services, or dedication of R&D to further data and knowledge on key issues.
- Leverage relationships the company has developed to approach prospective city(ies) and priority stakeholders with initiative(s) it wishes to trial and the resources/support it needs (or that could be useful) towards the pilot's success.
- Develop an initial set of metrics to evaluate success of initiative(s), including considerations for longer term integration into the business based on a sustainable business model.

Validation: External validation of ambition, objectives and/or approach from priority stakeholders. Support from relevant internal functions of business to enable a more integrated and successful pilot.

Key Question: *Which types of engagement/activity have the highest potential for impact and who must we partner with to act on them?*

Outcome(s): Externally validated hypothesis(es) of how company's unique strengths and interests can be applied to sustainable development challenges in a specific city or cities, as well as increased internal support and engagement from relevant internal functions.



Optimize

Maturity Level: Company evaluates pilot(s) in terms of impact and operating model, and liaises across functional areas internally as well as priority stakeholders externally to seek insights for improvement. Company considers potential wider application to other cities or regions beyond the specific cities of focus so far, noting the opportunity (and related challenges) for increased impact in multiple urban centers.

Level of Commitment: Company evolves pilot into an integrated part of its business and sustainability strategy, with requisite and dedicated resources to support it until it can develop pathways to a viable, sustainable operating model.

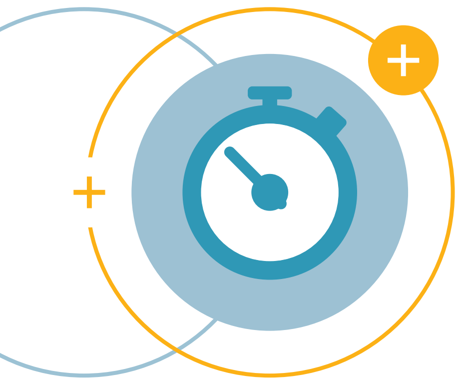
Activities:

- Review success of pilot(s) against established impact metrics.
- Evaluate current pilot(s) and approach against a refreshed analysis of "fundamentals"—e.g. emergent local, state and federal policy and regulatory landscape, consumer research and focus groups, think tank and other third party research, etc.
- Codify best practices in business processes accepted and shared by all relevant function areas that engage with cities and/or urban issues.
- Share results with relevant internal/external partners, sourcing targeted input and recommendations on how to optimize approach, and strengthening relationships necessary to further optimize and scale in future.
- Conduct cost-benefit analysis of crowdsourced recommendations, integrating those with highest value/impact.

Validation: Direct dialogue with relevant internal and external partners involved in initiative(s) to gather qualitative feedback on initial approach, success, externalities, etc.

Key Question: *How can the company integrate this or like initiative(s) into how it thinks, is organized and approaches priority risks/opportunities going forward?*

Outcome(s): Expanded internal/external network, proven operating model(s) and emerging strategy(ies) for ongoing impact on the company and city(ies).
Mandate to expand and integrate strategy and activities across enterprise and/or in other key markets.



Scale

Maturity Level: Company develops and begins to implement growth strategy—within and across cities, unilaterally and through partner channels.

Level of Commitment: Company regards urban initiative(s) and engagement on urban sustainability as integral to its forward success and evangelizes the need for systemic action and solutions, while continuing to commit resources to scale and evolve scope of its own efforts.

Activities:

- Conduct city-by-city analysis to identify, prioritize and choose next tier of markets to scale engagement based on success factors of previous urban sustainability initiative(s).
- Develop potential operating models to scale successful initiative(s) to next tier of cities and determine appropriate model(s) per city.
- Share information on how company has organized internally and engaged externally, and lessons learned, for others to learn from the challenges and impacts of its urban engagement.
- Create a call for action to scale relevant business engagement on urban sustainability further.

Validation: Engagement with both an expected and unexpected range of stakeholders to help navigate less-understood future opportunities and enhance impact and replicability of efforts.

Key Question: *How can the company's intelligence, engagement and experience serve as a platform for others to understand and catalyze their own place-based solution(s) to urban challenges, especially as further progress on its urban ambitions will only be possible with willing and able partners throughout the system?*

Outcome(s): An ongoing, high-impact platform and lasting relationships with key city officials and other urban actors collaborating to ensure integrated, inclusive and sustainable development within and across priority cities, resulting in enhanced competitiveness and resilience of strategic operations, and supported by a deep well of stakeholder trust.

5 Overcoming Barriers to Deeper Corporate Engagement with Cities

"One of the premises of this research project is that while many of the opportunities to work on this agenda are present, if not still nascent, there do remain roadblocks to deeper, more substantive engagement from business, specifically large multinationals."

The business case illustrated in Chapter 3 describes numerous ways that companies can and are engaging on the urban sustainability agenda, whether for one or a combination of financial, operational, reputational and/or sustainability leadership motives. In Chapter 4, we offer a tool for companies to gauge the level of maturity—in understanding, organization and action—that they have attained in working with or through cities and to help them consider the steps needed to "move up the ladder" to making a sustained contribution to urban sustainability. But, while these examples and frameworks serve as important proof points for how the private sector is impacted by, and can seek to impact, cities, they do paint a conveniently simplified picture. Here, we consider some of the more practical challenges affecting how well large companies are able to collaborate, especially with cities themselves, in pursuit of these goals.

Only in the last few years has the corporate sustainability agenda matured to the point where leading companies felt pressure to address—or saw the largest opportunities for impact among—issues falling outside their own four walls. "Indirect influence" eroded as a convenient crutch to explain inaction and evolved into a challenge around how successful one company, even a large, multinational one, could be in shepherding actors in its value chain—from suppliers and customers/consumers to regulators, policymakers and media—to collaborate, and in some cases, demand from it more sustainable outcomes.

As we have tried to demonstrate in discussing the imperative of sustainability leadership in Chapter 3, action on the urban sustainability agenda has become a natural extension of corporate sustainability in this respect. It is a way to apply a systemic lens to an issue or set of issues with advantages like a defined, physical space and a progressive and pragmatic ecosystem of stakeholders to drive tangible progress.

Chapter In Brief

- As a supplement to the conceptual tools offered in the preceding chapters, here we undertake detailed discussion of practical challenges affecting how well large companies are able to collaborate, especially with municipal governments, in pursuit of urban sustainability.

- Specific challenges discussed range from structural (e.g. misaligned interests/ incentives, the lack of an appropriate engagement mechanism) to political (e.g. real or perceived risk of corruption) to reputational (e.g. lack of authenticity, not recognizing the value the other can bring).

- By identifying and exploring such challenges, it is hoped that companies, cities and others can be better equipped to overcome or avoid them, and to unlock additional value from their work together.

Still, one of the premises of this research project is that while many of the opportunities to work on this agenda are present, if not still nascent, there do remain roadblocks to deeper, more substantive engagement from business, specifically large multinationals. The following is a synthesis of the insights we gathered in our 30+ interviews with urban thought leaders, as well as from excellent research done by partner organizations and from our own client work in this area over the last several years.

Unclear Engagement Mechanism

Especially relevant when the procurement process is the primary link between the company and municipal government(s), the risk of avoiding (and just as importantly, appearing to avoid) favoritism, "quid pro quo" and/or explicit corruption has created separation between the actors that may lead to unintended negative outcomes. A September 2014 study, jointly conducted by WBCSD and ICLEI, of 59 government officials in six continents found that "a substantial majority of respondents see business as having an important role in providing input to a city's sustainability plans as well as in implementation." The greatest barrier cited to expanding or deepening engagement with business solutions providers? A suitable engagement process (36 cities), followed by restrictive regulations (14 cities).[58]

This sentiment was reflected in interviews we conducted with current and former city officials, though with the caveat that the procurement "burden" did—and still does—provide useful safeguards against impropriety. As Sadhu Johnston, Deputy City Manager of Vancouver, puts it, "Procurement is a huge area of discussion. In some cities, it really is broken, it is a maze. As you fix it, the question is how to build in opportunities and flexibility without creating opportunities for favoritism or corruption. We need creativity, but, overall, we must protect tax payers' money." Nils Moe, Managing Director of USDN, continues on a similar theme, mentioning the "need to create the buffer, or perception of buffer, of access," concluding that there are "protocol issues that need to be addressed."

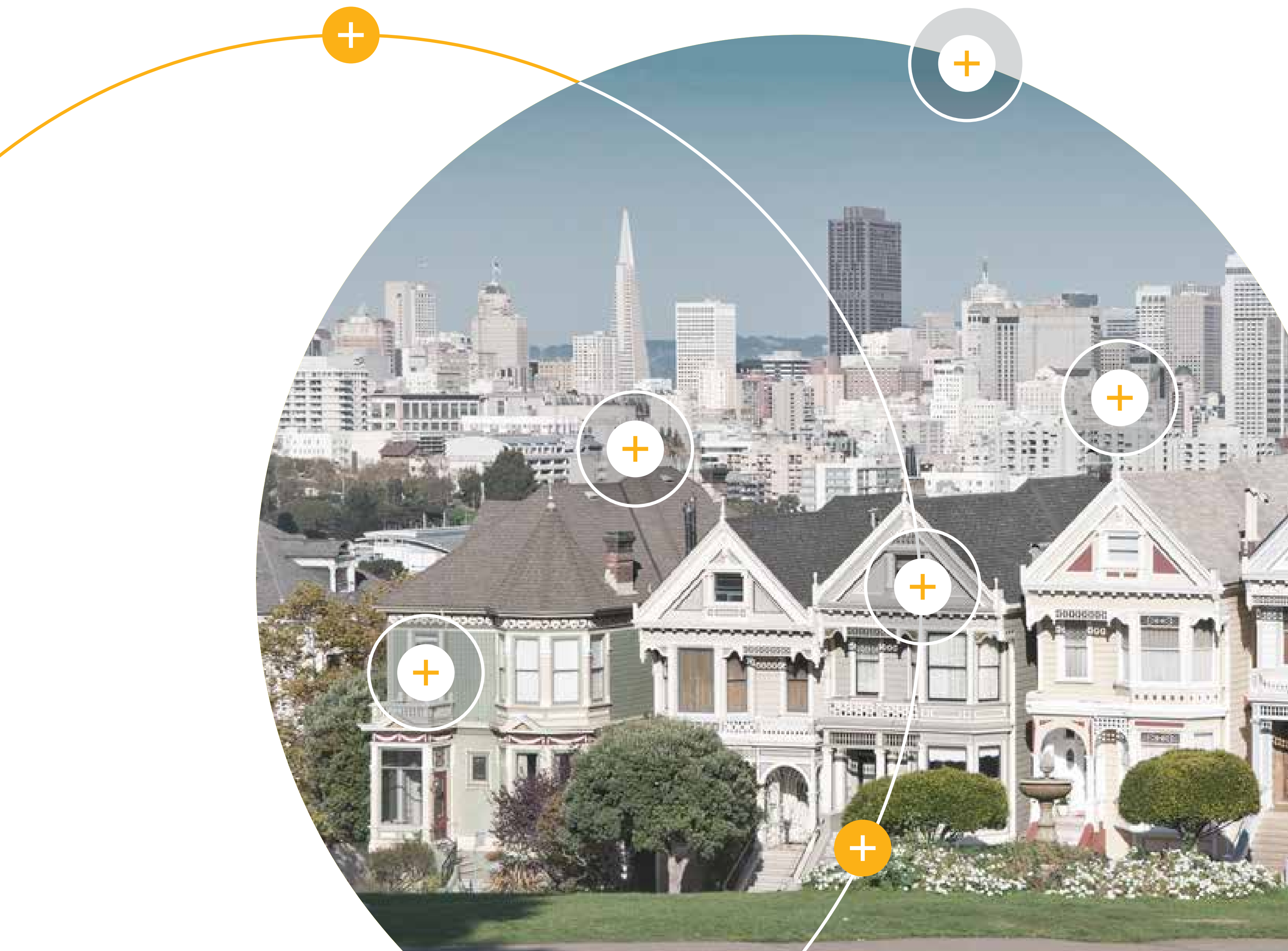
Because of this obvious disconnect, procurement has become a major topic of discussion among businesses and cities that are already engaged, and third-party organizations like WBCSD, ICLEI, CityMart, USDN and others have invested in identifying specific sticking points and potential paths forward. The premise is that, if successful, the opportunities for early, strategic engagement—i.e. before any RFP is issued and companies are viewed as "service providers" only—can begin to open up.

WBCSD's Urban Infrastructure Initiative (UII) is an early, and hopefully replicable, example of this. Believing, as former Executive Director of UII Matthew Lynch told us, that there is "much more value for cities to think of companies as 'thinking stakeholders' that can also make things happen," UII provided a "platform for collaborative strategic engagement between cities and business." Specifically, UII created multi-sector, multi-company working groups made up of its 14 member companies, including Cemex, GDF SUEZ, Siemens, AECOM, Phillips and Toyota, to work with 10 cities from North America to Europe to South Asia to East Asia. Each multi-disciplinary team would work with senior city officials to analyze "the city's major sustainability challenges...developing an innovative 'solutions landscape' that was 'vendor-agnostic.'"[59]

"Cities' need to be 'on guard' in dealings with many large businesses can thwart shared understanding of priorities, ambitions and potential partnerships before they even start."

Procurement, of course, is not the only instance where the issue (or perception) of cozy relations between the private sector and cities creates a challenge to greater collaboration. Depending on what region you are in and what the prevailing view of a company or companies is among citizens and other prominent stakeholders, even taking a meeting with certain big companies can smack of intrigue, no matter how tame the intentions. Ron Gonen, former Deputy Commissioner of New York City's Department of Sanitation and current Founder/Executive Director of the Closed Loop Fund, observed, "Sometimes local, state or national politics can get in the way of what should be productive meetings between municipal or state governments and certain companies."

While independent, third-party-led initiatives (like WBCSD's UII on large-scale infrastructure or Gonen's Closed Loop Fund on urban waste/recycling) help mitigate these challenges, cities' need to be "on guard" in dealings with many large businesses can thwart shared understanding of priorities, ambitions and potential partnerships before they even start. As the WBCSD-ICLEI survey concludes, "There are excellent examples of cities and business working together at the strategic level. However, this is the exception rather than the rule, which is a major missed opportunity."[60]



Disconnect Between Hype and Early Results

"The Internet of Things is reaching a tipping point that will make it a sustainable paradigm for practical applications that can change the future of individuals, enterprises, and the public sector."
IDC Government Insights report, 2013[61]

This techno-optimist declaration, quoted from a 2013 International Data Center forecast on the Internet of Things, frames a discussion of not if, but when the way cities build, operate and/or provide services to citizens will forever change because of a new generation of technology being aggressively marketed by the private sector. And it's not just one or a small handful of advocates talking in these terms. As referenced in Chapter 2, these declarations about what smart cities can and will accomplish are generally the rule, not the exception. Unfortunately, all that talk, investment and unabashed hype can rub cities and other urban stakeholders the wrong way, especially when corporate testimonials overstate the facts on the ground, potentially resulting in a loss of trust for future engagements.

"In speaking with city officials, it seems they feel quite burnt by technology companies. There is an impression that many of these companies have just repackaged existing offerings and marketed the hell out of them."
Emma Stewart, Head of Sustainability Solutions, Autodesk

In our interviews, ICT companies, particularly those looking to boost the marketplace for smart cities generally and their own products/services specifically, were frequently cited as culprits of this dynamic. Emma Stewart, Head of Sustainabiity Solutions at the design software company Autodesk, said, "In speaking with city officials, it seems they feel quite burnt by technology companies. There is an impression that many of these companies have just repackaged existing offerings and marketed the hell out of them." As we've mentioned, the majority of well-publicized smart city initiatives are still in the pilot stage, so claims of proven and sustainable impact are tentative at best, making vision statements, financial projections and city testimonials (when they are attainable) all the more important for determining whether a particular company's product/service will gain traction with a city.

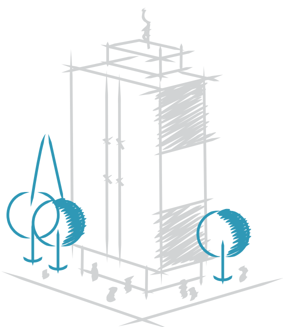
All this contributes to the feeling, expressed by some current and former city representatives we spoke to, that there is a disconnect between the lofty aspirations and capabilities described about smart cities and what has taken place thus far. One North American city official we spoke with said, "This promise of being a 'pilot city' is not as rosy as it's painted to be. It's either really small scale or there's a hidden price tag involved with it. And in the end, the company gets most of the benefit."

Misaligned Interests/Incentives

"The private sector thinks the public sector just wants to have press opportunities, or is asking too much of them, without orientation to their business needs. Business doesn't know how to speak to public sector folks, and don't realize the incentives that govern them. Everyone thinks academics are too much in the clouds. None of these players are speaking the same language. How do we create a place in the middle, where everyone can innovate?"
Colin Tetrault, **Arizona State University (and former Senior Policy Advisor, Sustainability for the City of Phoenix)**

A prerequisite for broader engagement from business on the urban sustainability agenda is the ability of the parties involved to, as Colin Tetrault puts it above, "speak the same language." While one obvious solution to reaching a shared understanding and roadmap forward is creating more independent, third-party forums and dialogues, does creating these spaces matter much if the interests and incentives of the involved parties fundamentally do not align?

As we've already asserted in this report, to date, examples of deep private-sector engagement in cities, even ones that are strategically important to a company based on the location of its headquarters, operations, supply chain, etc., are at best uneven, and in reality still mostly in the embryonic stage. "Committing resources and time that don't need to involve immediate commercial returns is not something that every business is willing or able to do," said WBCSD's Matthew Lynch. In a similar vein, Ron Gonen of the Closed Loop Fund said that the only way for most large companies to see beyond their immediate commercial interests was to be compelled to do so by some kind of external crisis, by a charismatic leader or leaders, and/or by disruptive innovation that threatens the long-term viability of their industry.



"Committing resources and time that don't need to involve immediate commercial returns is not something that every business is willing or able to do."
Matthew Lynch, **former Head of Sustainable Cities, WBCSD (now VP, Global Partnerships and Initiatives, World Council on City Data)**

If we have so far relied on exceptional companies, leaders and events to dictate whether the private sector views cities and their long-term needs and ambitions as part of their broader risk/opportunity map, what are we to do pragmatically that does not involve waiting for once-in-a-generation leaders and/or disasters? The answer is a classic corporate sustainability message: demonstrate the benefits of thinking in longer time scales.

Matthew Lynch continued, "Companies that do want to work together to grow this [urban sustainability] market see this as long term and strategic, not short term and transactional. There's an underlying driver here about transforming the market." In a similar vein, Sandra Baer of the Smart Cities Council told us candidly that while her organization works to "build trust with city leaders to help them make faster, better informed decisions, and to open the door for corporate partners to win new business," the payoff should not be expected to happen right away. "If you're going to build a relationship with a city, it will take time to result in a business benefit."

One city representative at the VERGE City Summit in October 2014 summarized the need, as well as the prerequisite, for aligning interests: "Progressive communities and progressive companies need to create that [sustainable] future...We would love to partner with companies that 'get it.'" When pressed on what that means, the city rep said, "Companies 'get it' if they're looking 20-30 years from now, not just five years from now. Those are the private-sector companies we want to partner with, the ones that aren't looking for ROI to pay off immediately."

Lack of Bandwidth/Prioritization

Cities are en vogue—as cultural tastemakers, as symbols of local power, as demonstrated and pragmatic leaders on sustainable development. It should follow then that stakeholders interested in accelerating progress on sustainability (and gaining reputational benefits to boot) by partnering with cities would be flooding city offices with requests to collaborate. Yes and no.

One of the dilemmas conveyed by the maturity model described in Chapter 4 is that companies need to be methodical in determining how and where they seek to address the urban sustainability agenda. That careful deliberation, though, does not guarantee the cities it engages with will get anything, directly or indirectly, to help them address their sustainable development ambitions. Potential long lead times and the fact that some companies' interest in a city(ies) may simply end with "engagement," has led some cities, including some that are quite prominent on sustainability, to "not waste time" with partners unready to roll up their sleeves and deliver positive outcomes now.

"Potential long lead times and the fact that some companies' interest in a city(ies) may simply end with "engagement," has led some cities, including some that are quite prominent on sustainability, to "not waste time" with partners unready to roll up their sleeves and deliver positive outcomes now."

The reverse is also true. Even if some in the private sector are eager to explore and create solutions in cities, they're not always able to find adequately engaged or patient partners on the city side, especially if the focus of the effort (even if it has high potential) isn't directly aligned with the city's or its mayor's signature sustainability issues. One participant at the VERGE City Summit in October 2014 acknowledged problems with the lack of capacity on the city side, saying, "Cities are approached all the time, but small cities particularly don't have the bandwidth to respond to all the opportunities."

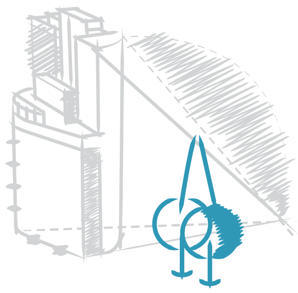
There's also a question around how effectively cities have rallied the private sector around the priorities that they do have. While understandable in the context of cities' reputation for apolitical (or at least, less political) pragmatism, some we spoke with did say cities often do a less than stellar job of outreach to the business community. Nils Moe, Executive Director of USDN, said, "I don't think cities historically have done a great job of engaging the private sector on their climate goals. It's been challenging for most cities, and where they do engage, it is often done in a scattershot approach." Alex Dews, former Policy and Program Manager for Sustainability at the City of Philadelphia, expressed a similar sentiment, citing his department's relatively small staff and budget and a tendency to be more internally focused, even though he believes proactive outreach on the city's sustainability plan is necessary and something he'd like to see much more of.

Organizational Silos

Another challenge lies in accessing and aligning all the different internal departments and resources that could potentially contribute to, and benefit from, successful collaboration. This is exacerbated not only by the complexity of large organizations, but also by the complexity of the agenda that such collaboration is meant to address. That is, even where an organization – whether a city government, a corporation or even an NGO – are broadly committed to urban sustainability or resilience, there are still challenging questions around what that really means and, in turn, who in the organization should lead, who else needs to take part, whose department(s) or function(s) should bear the cost, etc.

A recent book exploring the experience of the corporate partners in the Resilience Action Initiative (which we mentioned in Chapter 2) in fostering collaboration around a concept that was/is still new to many (i.e. resilience) touches on this particular challenge: "Mirroring the debates on the organizational home of sustainability a decade ago, there is no obvious right answer. Some companies delegated it to sustainability officers, others to strategy, technology, regulatory, corporate strategy or communication staff...operationalising the initiative was not obvious."[62]

Within companies collaborating, or attempting to collaborate, on urban sustainability and resilience, this similarly manifests in the sometimes-conflicting mandates of Sustainability, Business Development, Corporate Strategy, Product Development, Government Affairs, etc. Whether one or a certain combination of these is best suited to the job obviously depends on the circumstances, but we did hear from a number of interviewees that in practice, it is more often been the business development or sales function that has led, with mixed results. Rohit Aggarwala, a Principal of Bloomberg Associates and former Director of the City of New York's Office of Long-Term Planning and Sustainability, said plainly, "When these companies came to the sustainability office of New York City, it was a place to sell, not to learn."



"The question is how companies can effectively integrate their different teams and assets in order to engage in a longer-term, more systemic conversation with cities."

As referenced earlier (under Misaligned Interests/Incentives), the business development function will certainly carry some baggage, but not necessarily if it is empowered with the ability to pursue mid- to long-term opportunities that create less of a "city as customer" relationship alone (Aggarwala actually said he would welcome business development being at the table, as long as there are "sustainability people" within the function). And others hastened to add that even if they are sometimes too sales-focused, those business development people can bring other advantages, such as deep local knowledge, to bear.

The question, then, is how companies can effectively integrate their different teams and assets in order to engage in a longer-term, more systemic conversation with cities. Fortunately, there are signs that some are moving in this direction. Mette Moffet, the Project Manager of Novo Nordisk's Cities Changing Diabetes initiative remarked to us that while the program was born into corporate communications, "it quickly grew into sustainability, partnerships and stakeholder engagement" functions. "We're very much a cross-functional, matrixed team," she said.

Of course, siloing is an issue within cities as well. While the advent of sustainability and resilience officers within city governments is helping matters some (the Rockefeller Foundation's 100 Resilient Cities initiative in particular has helped accelerate this trend recently), a few interviewees told us that, similar to companies, some cities are still struggling to connect all the right dots internally. As a result, it can be difficult to determine which departments can or should be engaged on certain issues in order to integrate their disparate agendas and to combine budget or staff resources in ways that make more long-term, ambitious efforts possible. And add to that the potential for politics to also get in the way, although, this can sometimes have the opposite effect too, especially if there is a vocal citizen movement and/or a highly engaged mayor that can help to cut across otherwise inflexible boundaries.

"As the need for longer-term, more strategic dialogue is recognized, more and better relationships will become necessary rather than nice -to-have."

In the end, there is only one optimal way to operationalize around systemic challenges: organize systemically. As more cities and companies embrace the near- and long-term opportunities of this agenda, and emulate the efforts of the leaders now blazing the trail ahead of them, then integration will become more and more the norm rather than the exception.

Fragmentation

The atomized nature of working with cities has many distinct advantages for businesses looking to experiment on sustainability challenges, but scale may not be one of them. This dynamic, we found, can affect incumbents as well as startups that are looking to provide or improve upon direct (or indirect) city services. Even the process of developing and maintaining relationships can be incredibly resource-intensive, compared to business-as-usual stakeholder engagement.

For incumbents, there is a tension between products/services they sell that are meant to be replicable (across different cities) and those that are purpose-built for a particular city. One of the primary challenges Nils Moe of USDN cited for current city-business collaboration is the feeling from some cities that incumbent businesses were not creating bespoke solutions for the particular nature, characteristics and needs of individual cities. "These programs, services and products are designed for the city, but our feedback isn't involved in the design process. We need to have more proactive engagement more early on." That feeling of not being involved in co-creating solutions was echoed by Sadhu Johnston, Deputy City Manager of the City of Vancouver. "With these companies, half the time it's unsolicited proposals. There's been no stated need that the city has expressed, and the company is pursuing this kind of engagement with a bunch of cities at the same time."

Johnston's critique, however, illuminates a related barrier that the business community has expressed about the inability of some cities to consistently describe their needs. CityMart is an organization that works with cities to strengthen their capacity building around innovation. in part through "challenges" that cities submit to crowdsource innovative solutions, often from both small and large businesses. Sascha Haselmayer, CityMart's Founder and CEO, remarked to us that in the organization's database of challenges, cities find the most value in "looking at one another's problem statements, not the solutions." He continued, saying, "Four different cities have run challenges on LED street lights and each one was different from the last." Haselmeyer is quick to say this is a good thing, since each challenge iterated and improved on the preceding one(s), but for companies trying to construct a viable business serving a variety of different cities, this can be a real challenge.

Especially for startups, this lack of standardization—with differences on issues from pilot testing to procurement to politics—can affect whether the company can even stay in business as it tries to innovate. Mark Paris, the Managing Director of Citi's Municipal Markets Division and head of Citi's Urban Innovation Initiative, described why it was no accident that generally only established companies or the most well-funded start-ups can see through their efforts with cities. "Beta testing might seem like a great idea, but because of the length of time required from pilot to RFP to ultimate contract, it's not a viable pathway for a startup, even if they hear positive feedback from the city. If the process takes four years to launch, the company may not exist anymore."

To address this, Paris spoke of the need for corporate sponsors or strategic partners that can bring promising startups through the system. While that potential solution creates its own set of challenges ("Big companies don't want to take the risk of putting one thing on the table that has a lot of risk when they've got 14 other priorities that they want to talk to the city about..."), there are new avenues cropping up to "de-risk" these ventures, from corporate-led initiatives like Citi's Urban Innovation Initiative to urban accelerators or venture funds like Urban.Us.

Even more foundational than solutions development though is engagement, and the fragmentation of the relevant stakeholder landscape has been a barrier to the private sector more deeply engaging across cities on boosting their sustainability and resilience. Naturally, local presence and/or knowledge are vital for catalyzing deeper relationships and setting the stage for potentially transformative collaborations. The problem is that many companies simply aren't organized to do this across more than a few priority cities, though there are signs that may be starting to change.

Following its latest scenarios analysis in 2012-2013, which recognizes the growing influence of cities on development, energy use and climate change, Shell acknowledged the escalating importance of "being at the table." The company is now in the process of reorganizing and reorienting its stakeholder engagement function, so that it is better equipped to engage in city forums and build relationships with influential cities/city organizations.

Similarly, after the launch of BMW i in 2010, years before either of its flagship electric vehicles were on the road, BMW held place-based stakeholder meetings in strategic cities around the world, inviting local policymakers, regulators, national/international NGOs, financiers, media and students to talk about the future of urban mobility and seed recommendations that the BMW participants (representing Sustainability, Public Relations, Public Policy, Product Development, etc.) could choose to integrate into their forward portfolio of solutions.

"The pace and scale of innovation needed for stretch goals like Copenhagen's "zero carbon city" or London's "zero hunger city" (and many more like them) may dictate adapting, or altogether shelving, inadequate policies, rules and regulations. If "urban disruptors" in the start-up or corporate spaces are increasingly bidden to create solutions to these challenges, will cities be able and willing to innovate in turn?"

Of course, not all of the private sector is likely to follow suit, at least not right away. After all, how many companies will be willing or able to grow their efforts to the point that they can build and maintain relationships across dozens, if not hundreds, of cities around the world? And, as discussed earlier, how many cities will have the bandwidth to engage with companies in ways that don't necessarily yield immediate, tangible impacts on their sustainability or resilience efforts? But as the need for longer-term, more strategic dialogue is recognized, more and better relationships will become necessary rather than nice-to-have.

Regulatory Hurdles

For companies to contribute in a positive way, it may not mean direct collaboration. In some places, what we referred to earlier as "urban disruptors" have shown how quickly innovations—catalyzed as much by urban trends as technological ones—can scale and remake the way people move, live, eat, access funding, etc. While the jury is still out on the net impact of these innovations (when taking into account the range of potential negative externalities), they are exciting, if not yet fully understood and integrated, developments.

Still, if some municipal governments had their druthers, these new models, which often do not ascribe to the traditionally enumerated safeguards built up by the industries they are looking to disrupt, would not exist. In the last year or two, this has more often created conflict rather than conversation. This refers of course to the high-profile skirmishes that have occurred over the impact of rapidly-growing insurgents like Uber and Airbnb, but also a general inclination toward resistance or caution which might have a chilling effect on some of the more innovative experiments that the private sector could undertake. The question is whether innovators can truly leverage the "city as a platform" to create more products and services that improve quality of life and are more sustainable if they have to follow some laws viewed as appropriate or relevant only for a different time period?

RESISTANCE TO CHANGE
London's black-cab drivers protest against the mobile-based car service Uber, which they feel does not adhere to the proper city regulations.

It should be made clear that far from all breakthrough urban innovations are inherent "rule-breakers" (staying in the transportation space alone, Bus Rapid Transit, bikesharing, and, to a large extent, carsharing, have generally been welcomed by municipalities for their ability to cut carbon emissions and congestion. However, the pace and scale of innovation needed for stretch goals like Copenhagen's "zero carbon city" or London's "zero hunger city" (and many more like them) may dictate adapting, or altogether shelving, inadequate policies, rules and regulations. If "urban disruptors" in the start-up or corporate spaces are increasingly bidden to create solutions to these challenges, will cities be able and willing to innovate in turn?

Is It All About the Money?

Low-carbon development is arguably the most important fulcrum to the success of the urban sustainability agenda (and in turn, the global sustainability agenda), and among the host of urgent needs related to addressing it, capital plays a supporting, if not starring, role in every conversation. That leads to perhaps an obvious question

"It would be naïve to say that capital does not factor into conversations on how cities and the private sector can work together on accelerating urban sustainability. At the same time though, we found in our conversations with urban leaders in and outside of city government that it's also inaccurate to say that it is a prerequisite for deeper collaboration or engagement, especially among developed cities."

for companies interested in deeper collaboration on this agenda: does it come with a price tag, and if so, how much?

As referenced in Chapter 3, the infrastructure needs for new and swelling metropolises are massive. According to the World Economic Forum and World Bank, more than $1 trillion per year is needed to finance the infrastructure gap in low- and middle-income countries. In India, for instance, "the gap in urban infrastructure investment is estimated at US $827 billion over the next 20 years, with two-thirds of this required for urban roads and traffic support."[63] The problem is, many cities, especially in the developing world, would have difficulty accessing the necessary financing (a 2013 study by the World Bank estimated that "of the 500 largest cities in developing countries," only "about 4 percent are creditworthy in international financial markets and 20 percent are creditworthy in local markets."[64]

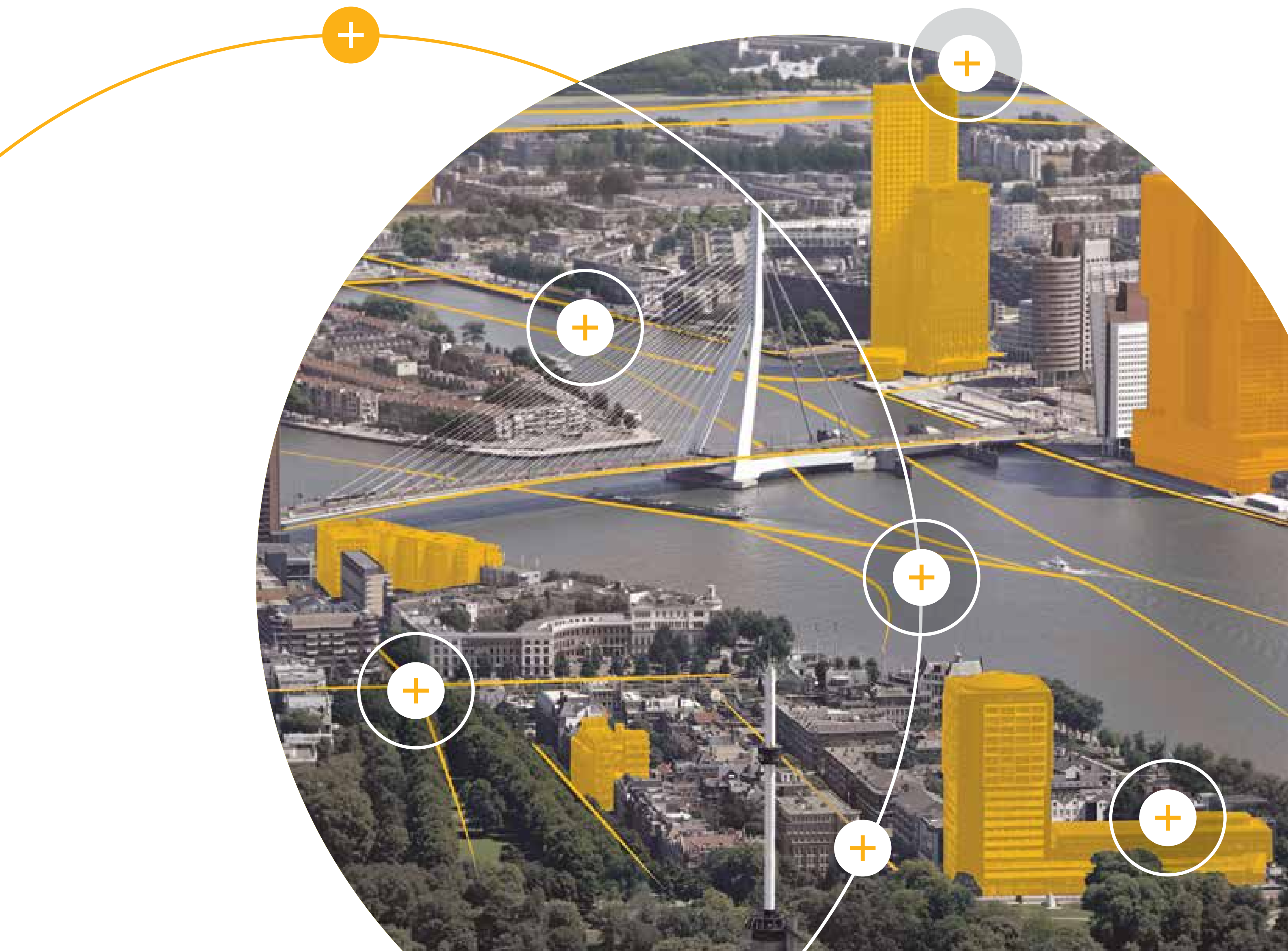
Because of these figures and many like them, there has been a concerted effort by multilateral organizations to close the gap and catalyze private funding, where available. Launched at the UN General Assembly in September 2014, the Cities Climate Finance Leadership Alliance (CCFLA) will look to accelerate additional capital flows to cities—including the "mobilization of private capital that will help grow the market from billions to trillions of dollars each year"—and maximize investment in low-carbon and climate-resilient infrastructure. [65] While the coalition consists primarily of multilateral and national finance partners and third-party city organizations, two banks (Citi and Bank of America) are also signatories.

While the CCFLA represents a relatively straightforward path to accelerate finance, municipal green bonds are more novel. Following a handful of pioneering examples—including Johannesburg's $136 million green bond (the first in a developing country) to finance investments to include hybrid buses, biogas energy and rooftop solar water heaters—there is a groundswell of support to scale the idea further. The just-announced Green City Bonds Coalition, led by the Climate Bonds Initiative and with partners like C40, NRDC and CDP Cities, will look to grow the use of green bonds to finance green city projects in both developed countries and emerging markets.

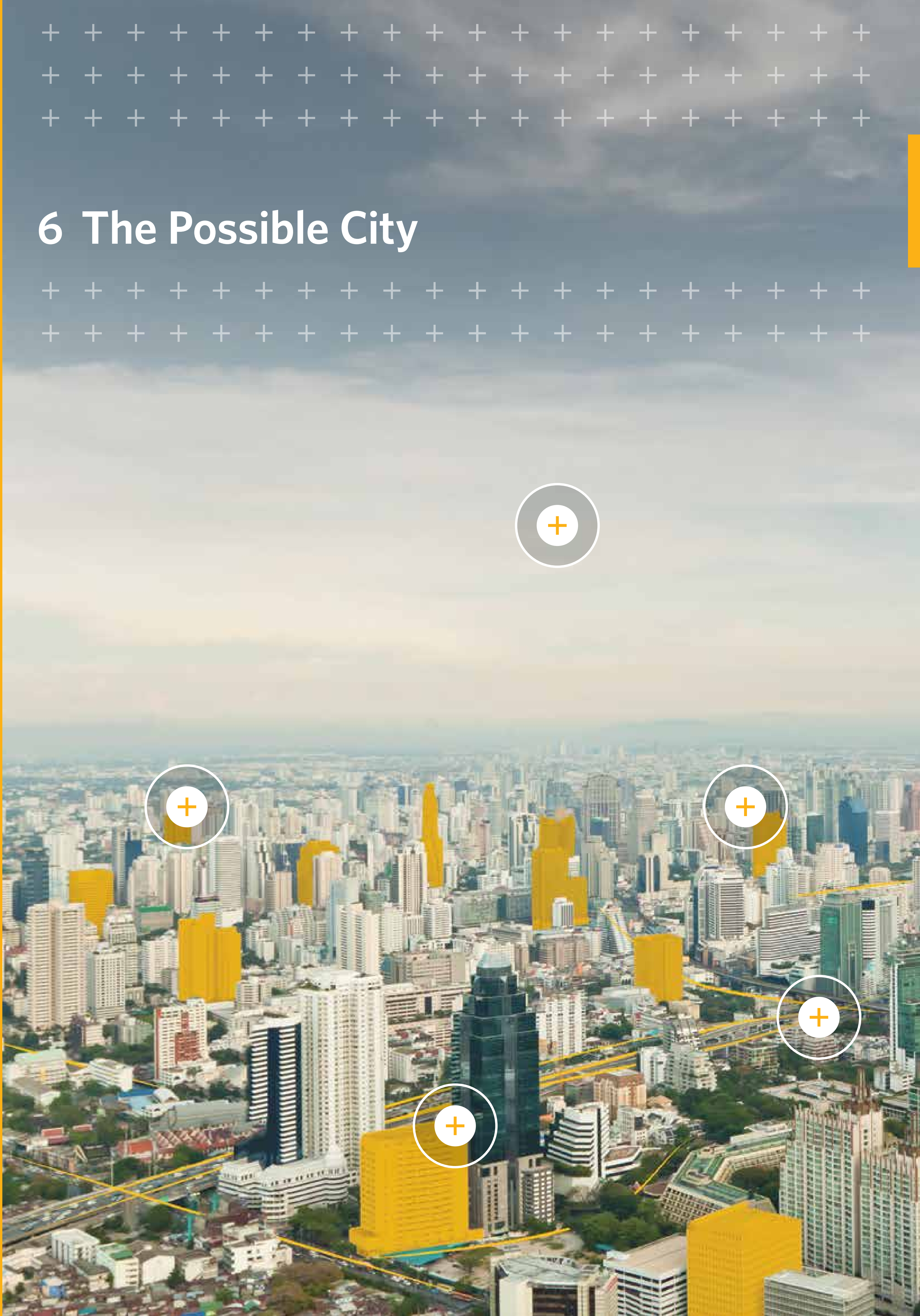
As illustrated by both the clear need and significant activity, it would be naïve to say that capital does not factor into conversations on how cities and the private sector can work together on accelerating urban sustainability. At the same time though, we found in our conversations with urban leaders in and outside of city government that it's also inaccurate to say that it is a prerequisite for deeper collaboration or engagement, especially among developed cities.

Rohit Aggarwala of Bloomberg Associates, and the former Director of New York City's Office of Long-term Planning and Sustainability, advised us to downplay the capital conversation when it came to how the private sector could collaborate on urban sustainability, saying it is a myth that "all cities are capital constrained," since they can often "borrow at much lower rates than other entities." Sadhu Johnston, the Deputy City Manager of City of Vancouver, reiterated this point to us, asserting that the "cost of capital is so much higher if we get it from the private sector. People expect that the private sector can provide cheaper money, but that's not generally the case." Melanie Nutter, former Director of Environment at the City of San Francisco, put it in perspective further, remarking that "when cities have a sustainability vision or plan, they have a much easier time to raise capital, though if you're doing projects in a vacuum, it can seem like a bigger barrier."

While this sentiment certainly differs for certain sectors (e.g. finance) and is clearly a different story depending on the needs/capacity of developed vs. developing cities, business, as we have discussed throughout this report, has much more to bring to the table than cash. But wherever the opposite view is still held, it is another barrier which needs to be overcome, especially to enable the kind of long-term collaboration that is necessary to drive progress on this agenda.



6 The Possible City



"Despite many of the hurdles and uncertainties related to the project of sustainable cities, we believe that aligning leading corporate voices and resources, financial and nonfinancial, around stretch goals is essential to success."

At the end of our first Citystates report, released in 2012, we posited the following key questions which would need to be addressed for companies to play a positive role on the urban sustainability agenda: "What are the most effective strategies for business to engage with local governments and their citizens to advance sustainability in cities? Who should initiate, and what are the relative advantages of open, multi-stakeholder forums versus more targeted, bilateral partnerships?"

Exploration of these business strategies (both current and potential) has been the focus of this second report. Despite many of the hurdles and uncertainties related to the project of sustainable cities, we believe that aligning leading corporate voices and resources, financial and nonfinancial, around stretch goals—on climate change and low-carbon development, water, waste and recycling, public health, food security, inequality and more—is essential to success. Still, despite the number of real-world and compelling examples we have discussed in this report, this remains an exercise in the possible.

But possible can be powerful. Again, back to Citystates for a moment. In that report, we articulated a series of distinct but related characteristics that described the potential for cities to be crucibles for accelerated progress on sustainable development—The Connected City, The Decisive City, The Personal City, etc. Now, having further explored the means by which the private sector particularly could help to realize (and benefit from) that potential, but concluding that for the most part companies are not yet engaged in this way, it seems fitting to introduce a related—and unabashedly hopeful—idea: The Possible City.*

The Possible City refers to that which could be created, and which might play a pivotal role in long-term sustainability, if we work together to create it. And it invites us to imagine what would be possible if we did. It also asks us what we might contribute—individually, organizationally or institutionally—to make it possible. At the same time, it acknowledges that there is not, nor should there be, a single vision for what that imagined future city will be. There are, literally, infinite possibilities. Lastly, it reminds us that our ideal future is never certain, that we must continually imagine and re-imagine it, and make choices, both individually and together, that move us closer to it.

"The Possible City refers to that which could be created, and which might play a pivotal role in long-term sustainability, if we work together to create it."

In particular, the possible city we have explored in this report emphasizes what might be enabled by catalyzing deeper, more ambitious engagement and collaboration among cities, companies and other stakeholders, and especially by global companies taking a leadership role in facilitating it. And it envisions a possible future in which those leading companies are gainfully rewarded for their bold collaborations and commitments, and where all actors combine to create the policies, behaviors and other conditions for flourishing urban populations living with within healthy, thriving ecosystems.

In this final chapter, we hone in on one crucial question: What's the next step?

*Though we are not directly referencing anyone else's use of this phrase, it should be acknowledged that it did not originate with us. Two other uses that bear mentioning are a book by Nathaniel Popkin, The Possible City: Exercises in Dreaming Philadelphia (Camino Books, 2008) and GOOD Magazine's notion of "Cities of Possibility," which was developed as part of its 2014 Good City Index.

Possible Ways Forward

"What are possible pathways for catalyzing greater private-sector engagement and leadership on this agenda?"

In light of everything already covered in the preceding chapters, we can expand this question to: What are possible pathways for catalyzing greater private-sector engagement and leadership on this agenda?

Of course, there is no guidance that can realistically be the same for any individual company grappling with a host of sustainability challenges, urban-related or not. So, with the caveat that solutions will necessarily differ significantly depending on the company/industry and a host of other factors, we would like to take this opportunity to propose a number of possible business-led or business-involved campaigns or initiatives we would like to see.

Far from comprehensive, we offer these as exemplary of the kind of collaborations that business can be involved in to accelerate urban sustainability and resilience, and/or possible ways to mitigate or overcome the barriers discussed in the previous chapter.

Industry-Specific Mobilization

"If industry peers banded together to better understand their complex interactions with a city or cities, in economic and social, as well as environmental, terms, how might that educate and inspire them and their stakeholders as to how to optimize the industry's long-term, systemic role in the city?"

As we've acknowledged several times throughout the report, and in the caveats above, it is impossible to engage every industry or company in this agenda on the same terms. So, at the same time that we emphasize the need to reach across industry boundaries, we also see promise in continuing to deepen understanding and engagement within them.

Inspired by the conversation we had with Autodesk's Head of Sustainability Solutions, Emma Stewart, we believe that more targeted research is needed to show an individual sector's, if not even each individual company's, specific impact at the city level. If the data were compelling enough, the city and partner organizations could meet with the CEOs of the leading companies in that industry and compel meaningful action. Alternatively, the data could also be leveraged to catalyze a public campaign, calling out the leaders of the industry "to get on board" and be a more positive influence on the city's climate action plan, for example.

Of course, that idea is simple enough to conceive of with respect to environmental issues like climate change (and is already happening in some places), but it might be even more compelling if done with an ambitious systems lens. Specifically, if industry peers banded together to better understand their complex interactions with a city or cities, in economic and social, as well as environmental, terms, how might that educate and inspire them and their stakeholders as to how to optimize the industry's long-term, systemic role in the city?

One interviewee liked the idea of inspiring sectoral action capable of doing something bolder on urban sustainability than companies would be willing to do themselves. "I would love to see companies in our industry work more cooperatively," he said. "Right now, they are abundantly risk-averse and abundantly careful. The word collaboration is a scary word. But what if we all committed to some serious, large-scale investments and really got things moving? We have no time for competition. We only have time for moving."

Pay for Performance

A major critique of the smart cities vendors, as we have discussed in this report, is that, thus far, the potential and accompanying narrative of technological tools from corporate service providers "transforming" cities to be more sustainable and resource-efficient has not been fully realized. And yet, such companies frequently express impatience with cities that are cautious or skeptical about what they have to offer. What if, as a way to demonstrate that this is about more than a product/service play alone, we saw companies tie their smart city contracts to the metric(s) they claim they can influence?

One kind of "pay for performance" (also known as "pay for success") arrangement that cities are now experimenting with is social impact bonds, where some municipalities have accepted capital at no upfront cost from financial firms and others to fund programs and/or nonprofits that seek to reduce a social ill, while in the process realizing cost reductions that can then be used to repay upfront lenders if successful. New York City launched the first social impact bond in the U.S. in 2012 with upfront financing from Goldman Sachs, among others, to fund a nonprofit whose goal is to reduce the likelihood of reincarceration of young men.[66] Since then, several other cities across the U.S. have launched or are in the process of developing their own social impact bonds to bring added attention and resources to vital programs.

While the set of issues and actors are different, it is demonstrative of novel ways for business to be partners on the urban agenda, and be rewarded when double and triple-bottom line solutions succeed. Russ Vanos, Senior VP of Strategy and Corporate Development at Itron, another smart cities technology provider (though not selling directly to cities), discussed the possibility of performance-based contracts that firms like his could start thinking about: "Performance-based contracts…require a changed business model. We're not in the business of offering it today, but I could see us doing it."

Business Advisory Swarms

Cities are currently in vogue. There is scarcely a major magazine or newspaper that In resiliency parlance, "swarms" describe redundant networks that emerge in times of crisis and retreat afterwards, to be coalesced again only when needed. Applying these "sensing, scaling and swarming tactics," how could cities benefit from deploying private-sector expertise via this flexible structure? [67]

Former Policy and Program Manager for the City of Philadelphia's Office of Sustainability, Alex Dews, explained to us one way he would like to see the private sector be more engaged: "Advisory groups that are operating from different sectors and making themselves available to help out on major city decision-making—that works now on an ad hoc basis, but mayors would do well to think about this going forward."

What this could look like is a city and its partners convening the most influential CEOs and/or strategically important companies to sketch out rough guidelines for when the city will ask for insight and help related to it driving progress on a set of sustainable development challenges relevant to the group. While this will certainly extend to times of unarguable crisis, when all parties will have a strong incentive to participate (the swarm of private sector assistance in the immediate aftermath of Superstorm Sandy in New York City is a good example), the scope of the effort will also extend to times when it is politically inconvenient to collaborate. In order to avoid barriers that we have discussed in the previous chapter around real or perceived corruption, transparency protocols should be put in place, but not at the expense of the availability of the city and its partners in civil society to call upon the vested interest of these corporate leaders at a moment's notice.

System-Level Collaboration on Pervasive Urban Issues

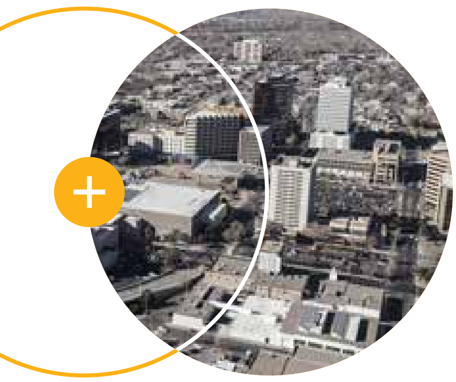
According to The New Climate Economy Report, "Urban air pollution is projected to become the top environmental cause of premature mortality by 2050. In Beijing, the total social costs of motorised transport, including air pollution and congestion, are estimated at 7.5–15% of GDP. Other studies show that pollution-related health costs reach as high as 5% of GDP in some cities in developing countries, over 90% of which can be attributed to vehicle emissions."[68]

Imagine if, like Novo Nordisk spearheading a cross-sectoral approach to tackling an urban public health issue like diabetes, corporate leaders from the automotive (given their products' impact on air pollution) and sports apparel industries (given their products being of less utility in an increasingly polluted city) teamed up with the public health department of a major emerging-market city and a prominent international NGO to raise awareness of and promote solutions to "Clearing the Air."

Such a collaborative would not be without significant barriers, but it is the kind of ambitious, multi-actor partnership that the urban sustainability agenda needs to see more of.

From Possible to Definite

Here we have described The Possible City—one notion of the positive urban future we imagine could be created—as well as ways and means it might come to be. On any pathway, greater collaboration among cities, companies and other urban stakeholders will be a crucial enabler of that future and bear special attention and investment. But our emphasis remains on the possible as opposed to the certain or perhaps even the likely; what will make it definite is the degree to which the ideas and tools in this report are embraced and applied. We look forward to working with clients and partners in that endeavor, and we welcome feedback and ideas based on your experience so that we can extend this thinking further.



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