

# Best Practices from Around the Globe for Long-Term Urban Sustainability

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## Abstract

This case discusses the need for urban sustainability planning, and how cities are incorporating sustainability into their core operations. We discuss the example of New York City, widely considered a global leader in city-level sustainability and climate resiliency planning, and question what will happen after the sustainability plan's leader, Mayor Bloomberg leaves office at the end of this year. It discusses global trends for urban sustainability, including governance of these cities, and how sustainability plans can transition during times of political change. We then briefly looks at existing efforts at sustainability in Hong Kong, and other Chinese cities, and ask how Hong Kong and China can learn from the experiences of New York, and advance its urban sustainability agenda to become an innovator and leader in the field.

## The Need for Urban Sustainability

In 2007, for the first time in history, a majority of world's population lived in cities, and the United Nations has estimated that urban populations will almost double by 2050 (Rosenzweig et al., 2010: pg. 910) The world's cities consume between 60 percent to 80 percent of energy production worldwide and account for roughly two-thirds of global carbon dioxide emissions (Kamal-Chaoui and Robert, 2009: p. 9). By 2030, over sixty percent of the planet's human population will reside in cities (World Health Organization, 2013). More efficient water and energy use, more cost effective waste management, lower traffic congestion and cleaner air are all needed to make cities more sustainable over the long run. Adopting sustainability practices is central to urban vitality and to making cities desirable places both for businesses and residents. Increasing consumption and car ownership has resulted in urban sprawl and the flight of the middle class to high-carbon living and working environments (Institute for Transportation & Development Policy, 2010). Cities must now turn to sustainable solutions that will attract residents, stimulate economic growth, and encourage more lifestyles based on renewable resources.

Local municipal governments have emerged recently as both laboratories for sustainable policies and programs and as leaders in creating and implementing

climate change action plans. This trend is significant for a variety of reasons – most notably that the global population is increasingly urban and that cities uniquely control important policy levers that many federal governments do not. As the providers of many important local services and operator of facilities, cities have a unique ability to take specific measurable action to reduce the use of fossil fuels and develop a more ecologically sound water supply, sewage and solid waste management system. They have direct control over critical systems like water and wastewater, waste and recycling, public transit, sustainability of service delivery, building and zoning codes, among others. And cities are able to create localized solutions. For example, more than two thirds of New York City energy use takes place in buildings, compared to a United States average of less than one third, and approximately 75 percent of the city’s carbon emissions come from energy use in buildings (PLANYC, 2007: p. 53, 106). For that reason, PlaNYC, New York City’s long-term sustainability strategy, focuses on energy efficiency in buildings, rather than automobile or industrial efficiency.

Cities are also joining together to focus on these issues: 12 mega cities, 100 super cities, 450 large cities, and 450 small and medium-sized cities across 86 countries are members of the Local Governments for Sustainability Group (ICLEI 2013). C40 Cities is coordinating the efforts of these individual cities to learn from one another, and strategize on how to best address climate risks and impacts locally. “The 58 cities now represented within the C40 account for 8 percent of the global population, 12 percent of global greenhouse gas emissions environmental and social assets – and have enormous potential to set the framework for a low carbon economy” (C40 Cities 2011).

Many sustainability initiatives provide health benefits, economic benefits, and improve quality of life. For example, planning residential and mixed-use buildings around public transport, bike networks, and pedestrian facilities can reduce sprawl and carbon dependency (Institute for Transportation & Development Policy, 2010). Cities have the opportunity to redevelop existing areas by repurposing vacant lots; actions that return value to previously underutilized areas. Additionally, redeveloping brownfields (abandoned, contaminated industrial or commercial property) has proven to reduce crime, increase surrounding property values, create jobs, and encourage private investment (Zborel, 2011). Investment in green space and urban forestry can likewise have positive impacts not only on the environment, but also on local economies and property values. Green space reduces the urban heat island effect, reduces heating and cooling needs and costs, increases air and water quality, and provides a safe, welcoming environment for residents and visitors to enjoy (Zborel, 2011). A sustainable city can be more livable and productive. City governments have been among the first to recognize that environmental quality and economic development go hand-in-hand.

While urban sustainability broadly is increasingly important to city governments, much of these efforts are centered on climate change mitigation and, more recently, adaptation efforts. Keenly aware of their cities’ vulnerability to

climate change, and, in the case of the United States, seeing little federal-level action, city leaders are taking matters into their own hands, identifying the major local sources of greenhouse gas emissions and energy inefficiencies and developing innovative strategies to address them. Cities are especially vulnerable to climate change; precipitation changes can have serious impacts on water supplies, and sea level rise, flooding and increased storm surges can heavily damage local infrastructure. Most cities are located near bodies of water. Cities have begun to establish climate action plans and in some cases have created targets and timetables for greenhouse gas reductions— a feat that most nations have been unable to accomplish. Data collected by C40 indicate that member cities--representing 297 million people and generating 18 percent of global GDP and 10 percent of global carbon emissions--have taken 4,734 actions to tackle climate change; another 1,500 actions are being implemented (Arup, 2011: p. 4). All that action is producing real results. In the face of increased storm damage from climate change, some cities have begun to develop climate resiliency elements to their sustainability plans.

## **A Sustainable New York City**

Under Mayor Michael R. Bloomberg, New York City has undertaken one of the most aggressive sustainability programs in the United States. Responding to the needs of future New Yorkers, the city analyzed its anticipated growth, the growth rate of services required to meet the needs of a growing population, and the impact of that population on aging infrastructure. In particular, climate change presents a number of challenges to the “future New York”. As a city with over 500 miles of coastline, New York City is vulnerable to flooding. Temperatures in New York City, particularly in Manhattan, are at times hotter than its surrounding area, due to a phenomenon called “Urban Heat Island Effect,” leading not only to health risks to its inhabitants, but also to increased demand on the electricity grid. Heavy storms in urban environments pose risks to the wastewater system, sometimes resulting in overflows of sewage treatment areas. These issues, and others, are only exacerbated by climate change.

### **Mayor Bloomberg**

During his tenure as New York City’s Mayor, Michael Bloomberg assumed a central role in the development of urban sustainability policy by advocating action at the local level. Bloomberg has made sustainability and climate adaptation key priorities of his administration. Critical to the success of Mayor Bloomberg’s efforts at sustainability is his view that sustainability is integral to the city’s long-term quality and global competitiveness as its population grows and other cities emerge as global leaders. He has tied sustainability to economic development – made them one and the same in New York, and expanded this critical connection globally. Mayor Bloomberg has been the Chair of C40 since 2010, and in 2007 acknowledged the progress made by cities in the move toward sustainable actions and policies:

“It is the cities, not just in the United States but around the world, that are

making the changes,” he said in Bali. “America doesn’t seem to want to have the national government manage its streets and traffic flow. It’s going to be up to the mayors to find a way to do that with less pollution and less strangulation on the economy. The public doesn’t seem to want the national government to dictate what kind of heating unit you use or how you can get rid of your sewerage.” (Fuller, 2007).

An outspoken proponent of climate action at the local level, Bloomberg has led the C40 to adopt its current emphasis on accountability through outcome-driven performance metrics.

### **PlaNYC 2030: A Greener, Greater New York**

Since 2006, the Mayor’s Office of Long-Term Planning and Sustainability has led an effort to define sustainability for New York City, putting that vision into a plan, and implementing the steps outlined in PlaNYC. The Sustainability Office is part of the Mayor’s Office and became formally recognized under local law in 2006. Its main purpose is to advance PlaNYC, the sustainability plan unveiled by Mayor Michael Bloomberg in 2007, and to ensure its implementation.

PlaNYC 2030 brings together over 25 agencies across the city to incorporate sustainability and develop a “greener, greater city”. It targets each sector through specific initiatives and milestones that measure progress and success. Bloomberg has consistently shown his affinity for data-driven policy and analytics to drive measurable results, known for the Peter Drucker axiom, “if you can’t measure it, you can’t manage it.” It was with this spirit that PlaNYC was developed. However, the initial plan was created by the Mayor’s office team and did not publicly consult constituents and community groups. Some of these groups were offended and some neighborhoods, like the South Bronx, felt it was not properly represented. Additionally, all initiatives that required upgrades and investments, met opposition when investment decisions were required during the height of the 2008-2009 recession.

The plan (updated in 2011) details 132 initiatives and more than 400 milestones. The plan includes initiatives in: housing and neighborhoods, parks and public spaces, brownfields, waterways, water supply, transportation, energy, air quality, solid waste, and climate change. One of its primary goals is to reduce the city’s greenhouse gas emissions 30% by 2030 – an ambitious goal for a city that was already considered one of the U.S.’s most carbon-efficient, primarily due to its high density and extensive use of mass transit. The central achievement of PlaNYC is its success in integrating environmental protection and quality of life initiatives into an overall effort to promote urban economic development. At its heart, the plan is not designed to protect the environment, but to make the city better able to attract and retain economic growth. The plan maintains that a clean environment makes the city a more attractive place to live in and invest in.

Thus far, the office has been able to point to a number of measureable

results. Some of PlaNYC's successful milestones include planting 750,000 trees, 300 miles of new bike lanes, the preservation of 92,000 units of housing, regulations to phase out the burning of the dirtiest heating fuel oil, and billions of dollars invested to protect the water supply (City of New York j, 2013). A few of the plan's initiatives helps detail the depth and breadth of the plan:

***The Select Bus System*** is a transit initiative that has provided buses to areas underserved by the subway system. Now, commuters in boroughs outside Manhattan have reduced their commute times and walking times to the nearest subway station (City of New York j, 2013). This solution is a low-cost alternative to the capital-intensive extension of subways and is an adaptable solution.

***The Mayor's Carbon Challenge*** was established to help the city to meet its carbon reduction goal by engaging with the private and nonprofit sector. Because building stock is a large source of carbon emissions out of the direct control of the city, the plan employs a voluntary approach, incentivized through promoting cost-reduction and competition, "inviting 17 local universities to match City government's GHG reduction target of 30% over ten years, and in 2009 the 11 largest hospital systems, composed of more than 50 individual hospitals, joined the Challenge. Together, these participants occupy 120 million square feet and account for 3.5% of the city's emissions...In April 2013, ten global corporations joined the Challenge, representing 20 million square feet of space and employing 70,000 people." (City of New York g, 2013). To lead by example, the Mayor set an even higher standard for the city's own portfolio of buildings in the 30x17 plan, which aims to cut GHG emissions from municipal sources 30% below the fiscal year 2006 levels by 2017.

***The Greener, Greater Buildings*** plan is an internationally recognized initiative that started in 2009 with the goal of increasing energy efficiency in large buildings in New York City. There are four parts of the plan: benchmarking, energy code updates, conducting energy audits, and sub-meter provisions (City of New York c, 2013). This plan should, in ten years, reduce greenhouse gases by 5%, result in \$7 billion in savings, and create 17,800 construction related jobs (City of New York c, 2013).

***NYC Clean Heat*** helps building owners meet new regulations that began in July 2012, designed to reduce air pollution from heating fuel. Through a phase-out approach, the regulations aim to reduce fine particulate matter emissions by 50% by eliminating the heaviest, dirtiest types of fuel oil. The NYC Clean Heat program provides help for buildings in understanding conversion options, coordinating with utilities, and assembling financing (City of New York a, 2013).

Not all PlaNYC initiatives succeeded. Some programs, like congestion pricing and waste-to-energy garbage facilities, met political opposition and were not implemented. A particularly contentious project is the waste-to-energy plant. On March 6, 2012, Mayor Bloomberg made a request for a proposal for a waste-to-

energy plant as part of PlaNYC. It “asks private sector firms to submit plans for a pilot facility using reliable, cost-effective, sustainable and environmentally sound waste to clean energy technology, which will help the City meet its goal of doubling the amount of waste diverted from landfills” (City of New York d, 2012). Overall, the goal of the proposal was to seek the cleanest energy options, eliminating any “mass burn” proposals. While environmentally conscious, a waste-to-energy plant may incite “Not In My Backyard” syndrome from constituents, as well as equity issues depending on the location and populations affected.

Some sustainability projects require people to change their behavior. Composting is an example of a solution to a problem – food waste that could be diverted from landfills – but requires both new facilities and behavior shifts. Mayor Bloomberg announced a new composting initiative in June 2013. The proposal envisioned construction of a composting plant to handle over 100,000 scraps of food from around the city each year. Food scraps would include “stale bread, fruit scraps, and even chicken bones, in containers [people] will have inside their homes. Once collected, the scraps are then deposited in larger bins on the curb for pickup” (Stevens, 2013). There are currently 150,000 single family homes that plan to participate in 2014 and by 2016 the program should spread across the entire city. The plan is for the Sanitation Department to provide the compost to city agencies and non-profits for the purposes of gardening, soil mitigation or habitat improvement programs (Stevens, 2013). Getting New Yorkers to sort their food waste from other garbage will be a major challenge. This composting plan might become reality; however, due to the upcoming Mayoral transition, it is difficult to predict if it will ever happen.

### **PlaNYC and Onward – Sustainability in a Post-Bloomberg NYC**

What will the future hold for New York City’s sustainability? While the City’s Charter requires a sustainability plan, the Office of Long-Term Planning and Sustainability, and periodic sustainability reports, there are many ways to kill a program; it can be starved of resources and attention and could be easily ignored and discarded. What will happen to these initiatives without the drive, money, and power of Mayor Bloomberg himself? Forbes listed Bloomberg in 2013 as the world’s thirteenth richest person, with a net worth of \$27 billion. Given his wealth, he’s been a mayor that wasn’t beholden to donors or interest groups and did not need to spend time fundraising. When he relinquishes his office on January 1, 2014, it is difficult to imagine that Bloomberg’s replacement will have the same degree of political independence. A new mayor may not prioritize the same big-ticket items as Bloomberg. For instance, the Climate Resilience plan Bloomberg released in early 2013 has a price tag of \$20 billion with detailed plans to create floodwalls and levees, institute new building codes to build buildings higher and more resilient, and provide incentives for moving existing electrical equipment farther from the ground (The Economist, 2013). Another PlaNYC program was the revitalization of public spaces such as the Governor’s Island, the Chelsea High Line, and Brooklyn Bridge Park projects. While the mayor’s office did not finance these projects, Mayor Bloomberg did mobilize support through his network of wealthy individuals and

corporate connections He was willing to publicly defend these projects and demonstrate their importance. Finally, the recently unveiled composting plan faces resistance that can only be overcome by an independent Mayor. Composting is only the latest cause among a wide range of signature projects that have weathered significant opposition: soda consumption, gun control, smoking bans, and bike-riding.

The Mayor's Office of Long-Term Planning and Sustainability has helped New York City reach environmental and economic goals, and reduce emissions. The Office has succeeded due to strong Mayoral backing and Bloomberg's strong desire to take non-incremental steps toward sustainability. This type of leadership and initiative was not seen in many other cities (Kellermann, 2013). Bloomberg's leadership was critical to the success of PlaNYC. PlaNYC's award of the Citizens Budget Commission's 2013 Prize for Public Service Innovation (Kellermann, 2013) is evidence of its success. The plan established sustainability goals and measures and requires regularly updated plans based on changing needs of the city. (FindLaw, 2013). The plan is designed to adapt to the changing environmental needs of the city with constant changes and new programs.

## **A Global Benchmarking Analysis**

In Spring 2013, a group of environmental sustainability masters students at the School of International and Public Affairs at Columbia University undertook a benchmarking analysis study on behalf of the New York City Mayor's Office of Long-Term Planning and Sustainability. The Office was faced with an impending mayoral change after a 12-year administration by Mayor Bloomberg, who personally championed sustainability and PlaNYC. The objective was to study sustainability agendas at cities throughout the U.S. and internationally, to inform the city's future plans for sustainability.

This team analyzed sustainability and governance practices of 30 U.S. cities and 6 international C40 cities. The City asked them to research what it could learn from the plans, the planning processes, and the implementation efforts across a wide selection of other major urban systems, in order to enhance PlaNYC. It also asked to understand how those lessons could translate into further institutionalization of sustainability within NYC programs, policies, and practices. The team identified overarching themes within sustainability initiatives across these cities and analyzed how distinct forms of governance influenced these plans. They also identified fifteen platforms that could strengthen PlaNYC and facilitate the institutionalization of urban sustainability initiatives in the future (Master of Public Administration in Environmental Science and Policy, 2013).

The Columbia University team identified six broad overarching trends for urban sustainability initiatives:

1. “Efforts generally move through stages of articulation, to implementation, to integration;
2. Though sustainability shifts in priority through leadership changes, it is not eliminated;
3. Energy efficiency was most commonly cited as cities’ highest priority;
4. Climate resiliency is generally not prioritized and is not on scale with the threat;
5. Most municipal sustainability efforts have greatly accelerated in the last five years; and
6. There is a global community paying attention to sustainability innovations” (The Future of PlaNYC: Innovations in Sustainability 2013).

The chief finding of the study was that cities all over the United States and around the world have begun to integrate environmental protection and economic development in order to build urban sustainability. In other words, clean air, water, ample parkland, green infrastructure and the resiliency needed to deal with climate impacts are now considered central features of attractive, economically viable cities. We can't trade off economic development and environmental protection in our cities; both are now interrelated elements of a sustainable city.

The Columbia study also found that across most of the cities, sustainability advanced in stages. A process of moving from individual or “piecemeal” efforts to a more coordinated, overarching strategy followed similar patterns throughout each region. They “identified three principal stages: articulation, implementation and integration, whereby plans were first articulated in a centralized manner, then implemented by many departments. In a few cities, plans are gradually becoming fully integrated into city operations” (The Future of PlaNYC: Innovations in Sustainability 2013). The study consistently found that sustainability was woven into a variety of parts of city government agencies, programs, and projects. It was generally not considered a separate issue, but part of city operations. Cities around the country and around the world see New York's sustainability effort as a model to imitate. Urban sustainability leaders cited the explicit integration of economic and environmental goals and the comprehensive scope of the program as elements worth emulating.

The project team's analysis of the politics of sustainability was encouraging and made it clear that urban sustainability is not simply the priority of a visionary mayor, but once established, becomes part of the institutionalized base of urban governance. The analysis looked at the institutionalization of plans, and how mayoral influence affected the development and success of sustainability initiatives. They found that the comprehensive plans were generally supported at the mayoral level, and that having strong mayoral leadership was extraordinarily beneficial. They also found that local politics tended to help encourage sustainability plans – rather than stifle them, which was encouraging for New York City, anticipating a significant mayoral change. They also state that “with leadership changes in cities, sustainability rose and fell as a priority but was never abandoned entirely. This may

indicate that most cities have moved out of an articulation phase and into some degree of implementation, whereby agencies and groups less affected by political change can continue their work. This is also indicative of public support for sustainability as well as the important work played by outside actors, including non-profits, the business community, higher education, and other levels of government, which maintain momentum even as governments transition” (The Future of PlaNYC: Innovations in Sustainability 2013). The most successful sustainability efforts were also defined not only by leadership from the mayor and his staff, but were also characterized by an effort to mobilize stakeholders from around the city. Community-based groups, mass-transit advocates, environmental groups, real estate interests, businesses, universities and hospitals were all involved in the city’s sustainability efforts.

## **Sustainability in Hong Kong**

Hong Kong can be considered fairly successful in many of its efforts at sustainable development. It has the highest rate of public transit usage in the world, supported by its Octopus Card, its innovative smart card system that holds currency for transit as well as parking meters, public pools and parks, movie theatres, restaurants, and more. Over 95% of Hong Kong residents between the ages of 16 and 65 use the card (The Future of PlaNYC: Innovations in Sustainability 2013). Hong Kong’s sustainability innovations extend to its early planning on climate adaptation through its Draining Service Department, established after a particularly damaging typhoon in 1992. This department integrates upgraded existing systems, new drainage interception tunnels, underground storage tanks, and large pumping schemes (The Future of PlaNYC: Innovations in Sustainability 2013). Its water conservation and control efforts are also considered a great success among large global cities. Following water shortages in the early 1960s and subsequent water rationing, the city established a program of seawater flushing saving valuable drinking water. By 1999, 79% of residents used this system, and in 2006, the city experimented with pilot programs for use of grey water (The Future of PlaNYC: Innovations in Sustainability 2013). In each of these instances, Hong Kong has demonstrated capacity and desire for progress on urban sustainability.

However, as urban sustainability advances globally, it may need to take new steps to remain innovative. “Demographic changes, resource constraints, and changes in public trust have prompted questions about the city’s path: Will Hong Kong remain a positive example of sustainable urban growth?” (Sapru 2012a). Hong Kong’s “emphasis on infrastructure has been its traditional path to development, with new towns and a mass transit railway in the 1970s and 1980s, airport and seaport development in the 1990s, and increased bridge and rail links to mainland China in the 2000s. Hong Kong has also enjoyed the flexibility to experiment with greener, socially conscious, and more sustainable development at its own pace” (Sapru 2012a).

“In 1997, the Study on Sustainable Development for the 21st Century in Hong Kong (SUSDEV 21) was commissioned by the Government of Hong Kong SAR. They developed a working definition for Sustainable Development in Hong Kong, guiding principles and sustainability indicators and, in particular, a Sustainability Development System with a computer-aided sustainability evaluation tool and recommendations on institutional arrangements” (Liu, Lau, and Fellows 2012). In 1999, the Hong Kong Chief Executive stated in a major policy address that “building Hong Kong into a world-class city and making Hong Kong a clean, comfortable and pleasant home would require a fundamental change of mindset. Every citizen, every business, every Government Department and Bureau needs to start working in partnership to achieve sustainable development” (Government of Hong Kong; “What is Sustainable Development?” 2013).

However, despite the 1997 study, and the 1999 policy address, Hong Kong still lags behind many major urban centers of its size and influence. In 2002, 5 years after the study and 3 years after the address, Hong Kong was still “waiting for its own sustainable development regime comprising a sustainability strategy and a full complement of dedicated institutions, policies, plans and laws...In Hong Kong, with the exception of the nongovernment organization (NGO) community, a few enlightened individuals and business associations, and an increasing number of champions in the government, sustainable development remains more a ‘concept on paper’ or in ‘planning’, rather than a realized path to a better ‘quality of life’ for the majority of its citizens. However, it is also important to note that despite the slow pace of change, the environmental protection and sustainable development agendas are not stagnant and are moving forward” (Mottershead).

Today, much of Hong Kong’s environmental sustainability programs (environmental protection, energy efficiency & renewable energy, waste, water, etc.) are coordinated through its Environment Bureau. In addition, Hong Kong’s Council for Sustainable Development was established by the Chief Executive as one of its initiatives to promote sustainability in Hong Kong. This council advises on priority areas, advises on strategies to integrate economic, social, and environmental perspectives, and facilitates community participation and public awareness about sustainable development. Council members are appointed by the Chief Executive and include practitioners from environmental, social and business sectors, as well as senior government officials. The Council is an advisory body and its primary purpose is to serve as a forum for exchanging views on key issues relating to the city’s long-term sustainability (“Government of Hong Kong; Council for Sustainable Development” 2013). While this serves some of the same functions as sustainability bodies perform in other cities, it lacks a clear authoritative role in program implementation. It does work closely with the Sustainable Development Division of the Environment Bureau, but the Council lacks the directive to develop and execute programs across city agencies and departments, like New York City’s Office of Long-Term Planning and Sustainability. The Council is primarily a forum for exchanging views on key issues related to Hong Kong’s long term sustainability, a necessary but not sufficient factor for making critical progress in urban

sustainability. “The practical means to achieve dense urban sustainable development have not been fully integrated. Whether Hong Kong’s existing regulatory system is consistent with the sustainability strategies of Agenda 21, the path to sustainable development and legal implementation needs considerable review” (Chan and Yung 2004).

As Hong Kong’s population continues to grow, urban density remains an important sustainability issue. Its population of “7.07 million is projected to grow to 8.47 million by 2041, with most of the city’s ‘suburban sprawl’ taking place in the densely populated New Territories to the north of the older Hong Kong Island and Kowloon districts” Sapru 2012a). This growth is similar to the impetus that sparked Mayor Bloomberg’s commitment to sustainability, and many other major global cities. For Hong Kong to continue to attract business and residents to the city, it may require a deeper political commitment to sustainability. A coordinated effort with high level political support and buy-in from agencies and partners in non-profits and business across the city may be required. These efforts are typical of cities with the most effective sustainability initiatives – though they often did not start out as such comprehensive plans or strategies. The transition from independent projects, like independent transportation and flood control programs, to a coordinated effort throughout the government, perhaps through a comprehensive sustainability plan, might be necessary for Hong Kong to take sustainability to the next level of success.

Incorporating sustainability into economic development and building support for this integration across the city can lead to much greater success than focusing on environmental issues alone and in silos. “A consequence of not engaging in sustainable development is the exodus of Hong Kong’s inhabitants -- including Chinese and expatriates working for multinational companies -- to places like Singapore, where quality of life is ranked comparable or higher. Companies are recognizing that they can attract talent with the offer of a cleaner living environment, more green space, and a more forward-thinking approach to urban development” (Sapru 2012a). Unsurprisingly to individuals like Mayor Bloomberg, CDP has reported that sustainability results in positive economic outcomes: “Research shows that positive economic outcomes often stem from investments in public transit, increasing green space, and building infrastructure for walking and cycling, among other initiatives. Our analysis shows that 62% of all reported emissions reduction activities being undertaken by cities have the potential to make cities more attractive to businesses” (CDP 2013).

Hong Kong Polytechnic University professor of civil and transportation engineering William Lam emphasized the importance of engagement among the government, private sector, and civil society to implementation of a successful sustainability strategy. He notes that “due to changing demographics, stakeholder engagement has become contentious, highlighting the question of whether the current model of engagement between government, business, and civil society is achieving the intended benefits” (Sapru 2012a). The Columbia University global

benchmarking study also found that stakeholder engagement is a key factor in institutionalizing and generating wide support for sustainability initiatives. If Hong Kong is ready to make sustainability a major priority, its focus cannot simply be on individual environmental priorities like air quality, waste management, or water supply, but must develop the institutional support that can implement initiatives such as these, and the capacity to put them in a larger economic development context that coordinates efforts across . “Thomas Tang, director of sustainability and corporate initiatives for global technical and management support company AECOM, said, “The Hong Kong government seems to be singularly weak at engaging—either with businesses or the civil sector—leading to suspicion and a current impasse.’ Tang points out that getting beyond the suspicion is needed to deal with the larger challenges, such as tackling air quality or the growing wealth gap in the population” (Sapru 2012a).

### **Lessons from Asia: Singapore’s Sustainability Blueprint**

Singapore, a leader in urban sustainability, launched the Singapore Green Plan, its first comprehensive environmental blueprint in 1992, long before many of its contemporaries. “Singapore’s well-coordinated urban planning has helped make it an environmental model” in the region, ahead of other cities in Southeast Asia like Bangkok, Jakarta, and Manila, for which the environment was not made a priority early on (Harris and Padawangi 2010). High-level support for environmental policy has been important to the success of the Green Plan and similar efforts in Singapore. While the first plan was launched in 1992, Singapore had forward looking leadership focused on urban environmental policy as far back as the 1960s, which enabled it to begin thinking about and incorporating sustainability into its development from the early stages. For these reasons, “despite the potential environmental problems often associated elsewhere with rapid urbanization, industrialization and increased motor vehicle population, Singaporeans surprisingly today enjoy, besides the fruits of economic growth, clean air, clean water, clean rivers, and clean and green housing” (Seik 1996).

Singapore remains committed to improving its sustainability performance and keeping the environment on the top of the agenda, despite some setbacks. In 2000, a preliminary study on Environmental Sustainability Index by the World Economic Forum rated Singapore among the 10 worst nations in a ranking of the environmental sustainability of 122 countries. Despite having placed environmental policy high on its political agenda for decades, it was still ranked poorly. Singapore appealed to the Index research team, citing its unique features that set it apart from most other nations on the list, and the Forum, recognizing this, revised the rank to 65th out of 122 in the final report. Countries smaller than 5,000 square kilometers were completely left out of subsequent reports to reflect the difficulty in comparison for these small nations (Government of Singapore 2002). However, the report, particularly the initial result, was a driving force behind a renewed commitment to comprehensive urban sustainability over the last decade.

Shortly after the study, in 2002, the Singapore Green plan was updated, delineating its sustainability vision for another 10 years. The Singapore Green Plan 2012 provides “goals for green business development, waste, green spaces, water and air quality, public health, and educational programs....The Green Plan is a national holistic framework for the greening of stated areas over the next few decades” (Bogan et al 2012). The Green Plan emphasized a systems approach based in science and technology, but also recognizing the importance of community involvement and partnership (Harris and Padawangi 2010). In addition to a concerted effort to engage the public, Singapore also works to actively integrate the business community in its sustainability planning: “Singapore is one of Asia’s environmentally-friendly building leaders, thanks to the both public and private sectors taking part in the greening of Singapore’s buildings. The Singaporean government has increasingly pressured businesses and firms to build sustainably through incentives and regulatory laws” (Bogan et al 2012). While many of the targets outlined in the first Green Plan, and the 2002 version were met or on track to be met by 2012, the government recognized that it must continually build on its successes and failures, and set new goals as it reached for ever greater improvements.

In January 2008, Singapore set up the Inter-Ministerial Committee on Sustainable Development (IMCSD), which was established “to formulate a national strategy for Singapore’s sustainable development in the context of emerging domestic and global challenges” (Singapore Government 2013a). Notably, this Committee involved high level ministers from areas not traditionally involved in environmental sustainability—key to integrating sustainability throughout the economy. This committee is co-chaired by the Minister for National Development and the Minister for the Environment and Water Resources, and includes the Minister for Finance, the Minister for Transport, and the Senior Minister of State for Trade & Industry. The Committee produced the next phase of Singapore’s Green Plan, called Singapore’s Sustainable Blueprint: A Lively and Liveable Singapore: Strategies for Sustainable Growth, released in April 2009. The Blueprint “contains the strategies and initiatives we believe are needed for Singapore to achieve both economic growth and a good living environment over the next two decades” (Singapore Government 2013a). It grew not out of an environmental movement, but a desire to “make Singapore a liveable and lively city state, one that Singaporeans love and are proud to call home” (Singapore Government 2009). Similar to NYC’s PlaNYC, Singapore’s Sustainable Blueprint recognizes that to attract and retain residents requires changes to the way the city operates. Singapore, like New York City, views sustainability as integral to quality of life, and therefore, as an investment in the city’s economic well-being.

For over a year, the Committee worked with civil servants across ministries, leaders of non-governmental organizations, businesses, academia, elected officials, and the public to develop this comprehensive long-term plan for Singapore’s development. The resulting plan for 2030 is centered on four main strategies:

First, to improve resource efficiency in energy, water and waste management so that we will be more cost competitive and efficient in the long run. Second, to enhance our physical environment through controlling pollution, increasing our greenery as well as cleaning and beautifying our water bodies. Third, to engage the community and encourage them to play their part by adopting more responsible practices, habits and lifestyles. Fourth, to build up our technologies and capabilities in order to realize our sustainable development targets, spur economic growth and export our expertise (Singapore Government 2009).

As it implements programs outlined in the plan, Singapore states that it is committed to upholding three principles: 1) Long-Term, Integrated Planning, aligning policies - from energy to transport to industry and urban planning, and taking long-term and complete views; 2) Pragmatic and Cost-Effective Manner, consistently assessing effectiveness and efficiency, with measures to temper and soften short-term impacts on of policy changes; and 3) Flexibility, enabling the capacity to adapt to changes in technology and in the global environment (Singapore Government 2013b).

In October 2013, Prime Minister Lee Hsien Loong announced that the Blueprint would undergo a review to update its initiatives and programs. Some expected changes for the review include enhanced interaction by the public and local communities, including the development of an anti-litter “volunteer corps” that would give volunteers the same warrant cards as enforcement officers from the National Environment Agency. Highlighting the importance of community buy-in and engagement in sustainability efforts, Environment and Water Resources Minister Vivian Balakrishnan “said the proposal aims to remind everyone to take ownership of the environment. “The real objective of raising a call for volunteers is this sense of empowerment and sense of stakeholding. It’s not just about having more people to issue more tickets. That’s an almost trivial exercise” (The Star Online 2013).

## Discussion Questions

1. PlaNYC has been closely associated with Mayor Bloomberg since its inception. Do you think a new mayor can identify sustainability as his own?
  - a. Have you seen similar opportunities in Hong Kong?
  - b. What can Hong Kong learn from the experience of New York City?
2. What are some similarities and differences between the NYC and the Singapore sustainability plans?
3. What are some of the risks, relating to sustainability planning, for cities undergoing political change?

- a. What are examples of operational and political methods for lowering the priority of sustainability without eliminating a sustainability office?
4. Can the model of a comprehensive long-term sustainability PlaNYC work in Hong Kong? How?
  - a. What about other cities in China, particularly those that will be the recipients of the massive new urban growth?
5. How can Hong Kong's Environment Bureau and Council for Sustainable Development institutionalize their work to ensure prioritization of sustainability initiatives, as well as continuity of sustainability efforts throughout time and periods of change?
6. What do you see as the top three sustainability priorities for Hong Kong's Chief Executive?
  - a. What new initiatives or projects can he champion to make sustainability a key part of his agenda?
  - b. How does the government garner support across its agencies for these initiatives?
7. What can Hong Kong learn from other cities about successful stakeholder engagement?

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