# Stamford Green Audit

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**What is a Green City?**

The concept is an evolving one. At a minimum, it means a place that manages its carbon footprint to be climate neutral. This is accomplished via a variety of means, including energy efficiency, transit-oriented development, green architecture, and waste reduction and recycling.

A more expansive view of the Green City would include the idea of the "climate positive" city…a place that is a net producer of clean power, whose air and water comes out cleaner than it goes in, and where the human network enhances the natural system.

A Green City also needs to be disaster resilient, not only because the more extreme weather events associated with climate change make cities, in particular waterfront cities, more vulnerable, but also because our increasingly networked global economy makes every city more vulnerable to other potential shocks—financial bubbles, pandemics, terrorist attacks—that could occur simultaneously with negative synergy. Many of these threats are akin to the risk of a big earthquake in California…Californians know a big quake is likely at some point, but they don't know when or how big. So they do what they can to build in less vulnerable places, using construction methods that minimize probable damage and constantly monitor the San Andreas Fault.

A Green City has to be similarly anticipatory and adaptive. It is not enough to be climate positive. Yes, it is important to do whatever possible to slow or halt global warming, but a truly Green City must be prepared to adapt and evolve with rising sea levels, increasing oil and water scarcity and the other shocks that a complex, interconnected global system will generate. A Green City is not so much a set of projects as a capability to continuously monitor and analyze emerging conditions and take action to co-evolve with them. No city has yet developed such a capability. Stamford could be the first. It is a position that builds on our history of economic reinvention.

This draft Stamford Green Audit is meant to address all of the above definitions of the Green City and to serve as input to a civic conversation in the September 17th Reinventing Stamford event on the Green City. It is labeled "draft" both to invite input from readers on key missing projects and to underscore the idea that Stamford the Green City is a work-in-progress.

Stamford is a Green City in the other sense of "green"…a place where people with talent and drive can make money. Every threat we face also presents an economic opportunity. Stamford has always been exceptionally good at surfing the waves of economic change, rather than standing still and letting the waves crash over it. Stamford needs to do that again, seizing the opportunities in the Green Economy that play to its strengths. This draft Green Audit does not address these opportunities. That will be part of the focus of October Reinventing Stamford event on the Creative City and the background materials prepared for it.

## 1. Capability Questions

- *Which comparable cities represent best practice for sustainability and natural resource conservation?*

  Some possible American benchmark cities:
  Boulder, CO
  Portland, OR
  Santa Monica, CA
  Cambridge, MA
  Ann Arbor, MI
  Seattle, WA
  Burlington, VT
  Santa Barbara, CA
  Tucson, AZ
  Flagstaff, AZ

  Some possible international benchmark cities:
  Melbourne, Australia
  Bogotá, Columbia
  Freiberg, Germany
  Curitiba, Brazil
  Changwon, S. Korea

  Most of the American cities have a strong green image that comes from a powerful natural-resource-based identity. Their natural resources create a visible connection that buttresses a green identity. Stamford has very strong natural resources in the Sound and in the forests of North Stamford, but these resources are not visible because Stamford sits on a glacial plane. It will therefore be a greater challenge for us to establish and cultivate a green identity.

  Melbourne sets the global standard for green building and place-making. Bogotá is the one of the most advanced in transit, public space and environmental justice. As former Bogotá Mayor Enrique Penalosa put it: "I set out to make a just city and I made a green city."

- *What institutional frameworks in these cities have been most effective for continuous improvement on moving green initiatives forward?*

  These cities have a combination of visionary leadership, strategic planning, dedicated staffing, and broad grassroots support.

  While all of those elements are critical, and some are missing in Stamford, there is actually an opportunity for Stamford to leapfrog these cities because, for the most part, they are pursuing a "linear" approach rather than a "whole systems" approach. They do not anticipate, and have not built a capability to respond to,

multiple, synergistic shocks that could have catastrophic consequences for their environment and economy.

The trick is to develop a long-term strategy aimed at achieving robust solutions while maintaining the flexibility that would allow Stamford to absorb unforeseen changes in conditions over the life of various projects, and in fact to fluidly incorporate those changes into the projects. No one has really figured out how to do that yet. Stamford could be the first.

*Does Stamford have a strategic plan that cuts across executive departments, the Mayor and the Board of Reps?*

Stamford has a Local Action Plan for Greenhouse Gas Emissions, prepared as part of its participation in ICLEI – Local Governments for Sustainability. The plan focuses on reducing Stamford's carbon footprint by increasing energy efficiency in buildings, lighting, the vehicle fleet and waste/recycling, and through transit-oriented development. It does not address adaptation to sea level rise and extreme weather events, managing water supply and demand, onsite capture/re-use of storm water, or natural habitat/corridor enhancement. It also does not address opportunities to build the green economy in Stamford, such as by nurturing energy technology companies. The plan was adopted through Mayoral proclamation without the involvement of the Board of Reps.

A Master Plan amendment is under development to address a broad range of sustainability and natural resource conservation issues that will be reviewed and approved by the Planning Board. This is an opportunity to build a robust, broad-based capability for the co-evolution of the Stamford human and natural systems.

- *What is the institutional framework in place for moving forward projects that advance sustainability and address climate change?*

Mayor Malloy was the first mayor appointed to then Vice-President Al Gore's climate change advisory panel. He has been a leader on sustainability issues locally, as well as nationally within the Conference of Mayors.

Robin Stein, Land Use Bureau Chief, and Ben Barnes, Director of Operations, are both strong champions of sustainability issues.

Erin McKenna, Associate Planner who serves also as the City's Parks Planner in the Land Use Bureau, spends part of her time supporting Sustainable Stamford, a cross-sector group which promotes energy efficiency, environmental education, solid waste reduction and recycling, greenhouse gas emissions reductions, green building and other sustainability issues.

Nancy Domiziano, Energy/Utility Manager in the Engineering Department supports energy efficiency initiatives, such as lighting replacement, as part of her job.

Stamford created the state's first Energy Improvement District, which covers the downtown and the South End. The district is governed by a five-member board and is staffed by Mike Freimuth, the City's Director of Economic Development and Intergovernmental Relations. The board is working on a business plan for development of combined heat and power generation and renewable power, starting with a fuel cell pilot at Government Center.

In sum, there is visionary leadership at the top, but this may not continue, as Mayor Malloy is not running for re-election and it is not clear whether sustainability will be as important an issue for the next mayor. Key department heads are committed, but may also not continue in the next administration. There is no full-time staff dedicated to sustainability. The grass roots are very thin. The sustainability agenda has been driven by the Mayor with little involvement of the Board of Reps or the larger Stamford community.

There is a compelling story about Stamford as a Green City, but it is largely untold. Some pieces are missing, but that is true everywhere. We have the opportunity to build from what we have to become the most robust place in the country in a way that integrates economic and environmental values. To succeed, the effort needs to reach beyond city hall to the larger community.

## 2. Network Map Issues

- *Is there a formally identified group of local leaders and community organizations connected to sustainability and natural resource issues?*

  As noted above, the grassroots are thin. Sustainable Stamford represents a potential vehicle for expanding grass roots involvement, as does the September event of the Reinventing Stamford initiative, which will focus on the Green City. Sustainable Stamford is working on a website to provide the public up-to-date information on Stamford's sustainability initiatives and opportunities for direct involvement. One of the key needs is to distill this into a compelling strategy and story about Stamford as a Green City that can be told and retold to build and sustain momentum for change.

  This is not about spinning or "green-washing" the Stamford story. A strategy that cannot be expressed as a story is not executable. Likewise, a story without a strategy is meaningless. Strategy development and story telling are the same thing if done right. The pieces that are in place are good ones, which can be built upon. The folks who initiated them are not yet whole systems thinkers, but they

are capable of evolving into it. There are many talented people in the Stamford community eager to join in.

- *Are departments connected by gatekeepers, people whose personal networks cross department and institutional lines, and who have a sustainability ethic and focus on high priority actions?*

  Yes, especially Robin Stein, Ben Barnes and Mike Freimuth. But Robin has been threatening to retire for several years, and Ben and Mike could follow Mayor Malloy to the Statehouse if he becomes governor. Stamford has a very strong, but potentially unstable set of players inside city government, and a relatively weak set of players outside city government. We need to use the Sustainable Stamford initiative and the Reinventing Stamford initiative to build a much stronger grassroots, not just for specific projects, but for an ongoing surveillance and analysis of emerging conditions and co-evolution with them.

- *Are city offices sharing their understanding of how their colleagues in other cities are addressing climate change and other sustainability issues?*

  Public education/communication has been minimal. Focus has been on getting stuff done within city hall rather than on explaining to citizens what Stamford and other cities are doing.

- *Is Stamford participating in the national green cities movement?*

  Yes. Stamford is part of ICLEI – Local Governments for Sustainability, an organization formed in response to inaction on climate change at the federal level during the Bush administration. It has 1,000 members globally, including 400 in the U.S. Stamford joined five years ago. Stamford is considered by ICLEI to be one of the top 10 green cities in the Northeast (few residents of Stamford know that).

  This year, Stamford joined CEOs for Cities, which gives it access to a network of 30 cities in the 60 largest metros. One of the CFC initiatives is the Green Dividend, the impact of reducing Vehicle Miles Traveled by one mile per person per day.

  None of these networks are yet focused deeply enough on building the capability for resilient, adaptive, evolutionary approaches that would truly constitute a Green City. Stamford could learn from its networks, but also has the opportunity to lead the way.

**3. Immediate Conditions Assessment**

Energy and Water

- *What is Stamford doing to lower energy use and costs?*

  Focus has been on low-hanging fruit, such as changing lighting. Most of the streetlights, stoplights and lighting in public buildings have been changed to more efficient bulbs. Any new city building must achieve LEED Silver certification (e.g., the new Environmental Magnet School is 3 points short of LEED Gold certification). Energy Improvement District is intended to increase energy efficiency, reduce energy cost and increase reliability. Stamford is exploring the creation of electricity from burning its pelletized waste from sewage sludge.

- *How will Stamford's transit/land use planning affect Stamford's carbon footprint?*

  Stamford is the leader within Connecticut on smart growth, transit oriented development and brownfield re-use. Master Plan focuses development in a compact downtown accessible by rail. The Stamford Transportation Center is the busiest station in the MetroNorth system after Grand Central Terminal and the fourth busiest on the Northeast Corridor. Auto, bus and bike access to the STC is being enhanced through construction of the Stamford Urban Transitway and improvement of railroad underpasses between downtown and the South End. City is studying the creation of a street car line connecting the STC to the waterfront and to Bull's Head, the intersection of High Ridge Road and Long Ridge Road north of downtown. City is working with ICLEI and RPA to quantify how much its TOD policies have reduced greenhouse gases.

  A 20-year Master Plan for improving the STC is starting which will address STC capacity, way-finding, user comfort, parking, as well as improved auto, bus, bike and pedestrian access.

- *How much renewable energy is Stamford using?*

  Goal is 20% by 2010. Status?

- *Does Stamford have a plan for development of renewable energy?*

  The Energy Improvement District is developing one.

- *How is Stamford working to conserve the water supply?*

  There is no water demand management plan. Water is largely off the city's radar. This is a critical gap, as water is likely to surpass oil as the most critical natural resource of the 21st Century. We have competitive advantage as a water rich area

if we do not squander it. For example, DEP is considering new stream flow standards that could threaten Stamford's reserve water supply, but the city is not engaged in this issue.

- *How is Stamford working to reduce community use of energy and water?*

  Stamford land use boards encourage developers to seek LEED Silver certification. RBS is going for LEED gold in its new headquarters building. Metro Green, a proposed office building adjacent to the STC, is seeking LEED Platinum certification. Jonathan Rose recently completed 50 affordable residential units adjacent to the Metro Green site. Rose is seeking LEED Silver or Gold certification. The Harbor Point development in the South End is seeking LEED neighborhood development certification. Feedback from developers is that the cost of working through the LEED bureaucracy is higher than it should be.

  Stamford is exploring the creation of recharging infrastructure for electric vehicles.

  Stamford, through the Business Council, assisted in energy audits of its predominantly 70-80's era office buildings, which showed most of the buildings to be very inefficient. The developer Building, Land and Technology (BLT) has taken a leadership role in gutting some of these buildings, updating the HVAC systems and re-skinning the buildings with energy efficient materials (e.g., renovation of former Xerox HQ for a GE division; renovation of a former GE division HQ for General Re).

  The stimulus-funded program to weatherize residential buildings is being managed by the Workplace and CTE with limited city involvement.

  As noted above, there is no water demand management underway at the city level, e.g., encouraging once-a-week (rather than more frequent) watering by residents.

Waste Reduction and Management

- *How is Stamford working to reduce the volume of solid waste?*

  New construction must reduce construction waste by 50% as proposed in a draft City ordinance. City has recently shifted to single stream for residential recycling. Increasing recycling is primary focus of Sustainable Stamford.

- *What is the trend for recycling solid waste?*

  Stamford is currently at 11% and rising. State target is 40%.

- *What is performance trend for human waste treatment? Is Stamford considering how advanced waste treatment positively and negatively affects climate change?*

  Stamford has the most efficient waste treatment plant in Connecticut and is the highest revenue earner in the state's nitrogen cap and trade program. There is a high level of consciousness in Connecticut of the negative effect of nitrogen on the Long Island Sound, and significant federal/state/local investment in upgrading waste treatment plants.

- *How is Stamford addressing water pollution impacts and risks associated with routine and catastrophic storms?*

  The amount of impervious surface in Stamford is growing, leading to more frequent flooding impacts. Despite this, there is no storm water management plan by the city, and the coastal management program within DEP is not helping localities think through vulnerability issues. There is now the capacity within the Land Use Bureau's GIS function to map inundation from sea level rise and storm surges. Soundwaters has done some modeling of sea level rise in its public education center. The organization 360.org has proposed creating a human chain showing where high tide would be under projected sea level rise to raise public awareness in a concrete fashion.

  There is a watershed study underway for the Mill/Rippowam River that will address storm water management and flood resilience. The Master Plan sustainability amendment will also address these issues.

  There is a new Harbor Plan and a newly constituted Harbor Commission, but their focus is on managing conflicts among recreational uses rather than addressing waterfront vulnerability due to climate change, e.g., the adequacy of the current hurricane barrier to survive wave attacks from the bigger hurricanes resulting from climate change.

Green Infrastructure

- *How is Stamford growing the amount and use of public green space?*

  The Mill River restoration will be the premier project in New England in terms of both urban green space creation and habitat restoration. The effort has been institutionalized in the Mill River Collaborative, which is raising $60 million of federal, state, foundation and private contributions to complete the work. Ultimately, this could create a corridor for hikers, bikers, animals and fish linking the Long Island Sound to the lakes, forests and farms in North Stamford and New York, integrating Stamford's natural resources in a way that could significantly contribute to its identity as a place.

Stamford has over 14 acres of green roofs as a consequence of a zoning ordinance that requires the landscaping of the roofs of parking garages visible from the office towers above them. This was not originally intended as an energy saving or storm water management strategy, and the gray water runoff is not captured for use in the buildings, e.g., for flushing toilets.

- *Is public green space managed to enhance habitat value as well as public use?*

  The Mill River project will involve removal of invasive species and restoration of natives, complementing the return of the river to its natural state with the removal of the dam and retaining walls.

  Stamford has obtained conservation easements in some private developments to protect critical habitat.

  There is not a clear sense among Stamford residents, or even among city staff, about the character of Stamford's natural system, its critical species, habitats, centers and corridors. The Natural Resource Conservation Service at UConn could be helpful in revealing the Stamford natural system and has dollars for restoration.

  Stamford owns a nature center and an arboretum, both of which are underutilized.

- *Is Stamford working with or without state help to assess the current condition and the restoration potential for its coastal shoreline and habitat?*

  At the state level, DEP is more supportive of upland habitat restoration than it is of marine habitat restoration. For example, DEP is very skeptical about the efficacy of eelgrass restoration.

  Soundwaters just celebrated its 20-year anniversary. It provides environmental education, focused on the Long Island Sound, to over 400 youth each year in one and two-week summer programs. It has a permanent education center at Cove Island Park, as well as a schooner and a smaller vessel. Soundwaters has been the city's strongest advocate for public assess to the waterfront, and its efforts over the past two decades have helped dramatically increase access to the Sound, not so much through a continuous walkway, as through a series of spokes out from the water.

- *Is Stamford's Environmental Planning Board encouraging restoration and better stewardship of natural resources, as well as discouraging harmful development?*

  Stamford has done a good job of exacting waterfront access in new developments, but has not had a similar focus on creating or maintaining view corridors to the water or on habitat protection/restoration. The regulatory process is project-by-project review, which makes it difficult to incorporate cumulative effects.

**4. Emergent Problems Associated with Climate Change**

- *Has Stamford independently, or with federal and state assistance, assessed risks to public and private property associated with sea level rise?*

  No.

- *Has Stamford considered other community health impacts associated with accelerating climate change?*

  No.

- *Has Stamford evaluated how rising energy costs will effect city operations?*

  Some of this may come out of the work of the Energy Improvement District.

- *Does Stamford have a plan for managing land and water resources during a period of accelerating climate change?*

  No.

- *Does Stamford have a capability for on-going surveillance and analysis of emerging conditions and for co-evolution with them?*

  No.